National Center for Human Resources Development
(NCHRD)

Report on

Analysis of Quantitative TVET Indicators in Jordan 2001-2006

March 2009

This report has been written by a team of Jordanian technical experts. It has been supported by the ETF, but the analysis and the recommendations may not necessarily express the opinions of the ETF.

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FOREWORD

Providing policy makers in charge of defining and implementing human resources policies with accurate and analyzed information is a challenge that most developing countries are facing when initiating the reforms needed to cope with the dramatic evolution of local economies in the context of globalization. At the same time the civil society, the families of students and the economy actors require more information to decide upon their choices to develop their competences and increase their chances to cope with change.

Unfortunately information may be limited, scarce or inexistent. In most cases the information exists but is not shared amongst those who collect it, whether these are training providers, statistical offices or ministries in charge of collecting information.

In Jordan, thanks to the efforts of all stakeholders and the support provided by several donors (foremost Canada and the EU) in the early 2000s, a coherent and organized system of collection and standardization of information is now available through Al Manar Project in the National Center for Human Resources Development (NCHRD), which provides comprehensive information concerning the supply and demand sides of HR provision.

In order to make useful use of such a wealth of information and provide decision makers with accurate tools, it became obvious that much more is needed to be done, particularly in developing targeted analysis of this information.

Through a project initiated In 2002, the European Training Foundation has developed a capacity building project (the observatory function) aiming at consolidating institutional setting and methodological tools for the analysis of the socio-economic developments in line with the labour market and the requested human resources. The concept is based on bringing together private and public stakeholders, users and providers of HR information. A strategy for Human Resource Information System (HRIS) development was drafted and then pilot initiatives were initiated to provide those stakeholders with the capacity to analyze the available information. In 2004 a first attempt lead to the publication of a report on unemployment in Jordan based on the information available in Al Manar, DOS and the databases of other data providers. In 2005 and 2006, a TVET indicator handbook has been prepared aiming at providing stakeholders with the required technical tools to develop a monitoring system based on a set of Key Indicators to measure the performance of the entire TVET sector.

Now the time has come to clearly link the outcomes of this work with the remarkable efforts to drastically reform the entire Employment and TVET system as recommended in the National Agenda in 2005, and to comply with the 2006 national strategy for TVET Reform putting as a priority the availability of a performing HRIS.

A technical committee consisting of representatives from the main institutions (private and public) involved in HRD has with the support of the ETF identified a set of indicators capable to reflect the major objectives of the national strategy for E- TVET reform. Based on information running from 2001 to 2006, the analysis made from these indicators capture the evolution of the TVET system in Jordan and provide the reader with conclusions which may challenge the common public understanding.

We would like to mention that this attempt to provide a comprehensive overview of the entire HR supply system is unique in the Mediterranean region and maybe worldwide. You may find excellent analysis on one part of the HR system (i.e. Ministry of Education or Technical Education) but very rarely do these analyses take all its components into consideration as in this publication.

It is obvious that much more needs to be done to have a full HRIS in place and particularly to be able to analyse the labour market needs in terms of human resources by economic sectors and regions. Nevertheless Rome was not built in one day. The E-TVET reform process will continue building capacities among the stakeholders, and we are convinced that the Jordan HRIS, which already serves as a reference to a number of countries in the region may continue to develop and contribute effectively to the decision making process.

On behalf of the European Training Foundation and the National Center for Human Resources Development, we would like to express our deep thanks to all who have contributed at one stage or another to this work and have set the foundations for a sustainable publication which should be able in the next years to deliver on a regular basis the information needed to steer the E-TVET reform process.

August, 2008

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List of abbreviations and acronyms

BAU	*Al Balqa' Applied University.*
DOS	*Department of Statistics.*
ETF	*European Training Foundation.*
ETE	*Education and Training for Employment*
EU	*European Union*
GDP	*Gross Domestic Product.*
JSCED	*Jordanian Standard Classification of Education.*
JD	*Jordanian Dinar.*
MOHESR	*Ministry of Higher Education and Scientific Research.*
MOE	*Ministry of Education.*
MOL	*Ministry of Labour.*
NCHRD	*National Center for Human Resources Development.*
O.F.	*Observatory Function*
SMEs	*Small and Medium Enterprises*
VET	*Vocational Education and Training.*
TVET	*Technical and Vocational Education and Training.*
VTC	*Vocational Training Corporation.*

Executive Summary
Introduction

The aim of this publication is to provide a first comprehensive analysis of the TVET sector in Jordan from inside and to present decision makers with policy recommendations needed to improve the quality of the TVET sector. In a Life Long Learning perspective, as expected in the context of the achievements towards a knowledge economy (a main goal of the National Agenda), additional data and analysis are still needed.

Education and training systems in different countries can learn from each other through the use of common indicators. Analysing the Jordanian education and training system is a first step towards a greater understanding of the challenges ahead. To complement a national analysis it will be useful to compare results, analysis and ideas with countries in similar circumstances.

In Jordan since 2002, a coherent and organized system of collection and standardization of information was developed with the help of several external organizations, such as the Canadian International Development Agency (CIDA), and the EU. The Al Manar Project in the National Center for Human Resources Development (NCHRD) provides comprehensive information concerning the supply and demand sides of human resource (HR) provision. Such efforts have been supported in this period by the European Training Foundation through a capacity building project (the observatory function) based on bringing together private and public stakeholders, users and providers of HR information. After the preparation of a Human Resource Information System (HRIS) strategy, a report on unemployment in Jordan was published in 2004, based on the information available in Al Manar, the Department of Statistics (DOS) and the databases of other data providers. In 2005 and 2006, a TVET indicator handbook was prepared aiming at providing stakeholders with the required technical tools to develop a monitoring system based on indicators measuring the performance of the entire TVET sector.

The outcomes of this work should now be linked with the efforts to drastically reform the entire Employment and TVET system as recommended in the National Agenda in 2005, and to comply with the 2006 national strategy for TVET Reform which made the availability of a performing HRIS a high priority.

A technical committee, under leadership of the NCHRD was set up in 2005 with representatives from the three main TVET providers (the Ministry of Education (MOE), the Vocational Training Corporation (VTC) and Al Balqa Applied University (BAU)), Department of Statistics, Social Security Corporation, and from 2006 onwards, the Chambers of Commerce and Industry. The Technical Committee was supported in this work by ETF experts.

Five major operational objectives were derived from main national policy documents in order to define indicators measuring progress towards these objectives which are:
1- Equipping Jordanians for the world of work, either waged or self-employment;
2- Enhancing upper and horizontal mobility in the labour market;
3- Achieving equitable outcomes in TVET;
4- Rationalising investment in training; and
5- Maximising the value of public TVET expenditure.

Not all of the main objectives can be covered with indicators at this stage. The second major objective can only be measured once better data has been created

and collected. The list of indicators therefore only attempts to cover four of the five main objectives.

A few indicators were added to give context information on the labour market. Data covering the period 2001-2006 for the calculations of the 28 indicators of the first set of indicators was then gathered throughout 2007 and calculations made where the data was available. The full report contains the complete analysis which was subsequently made of the calculated indicators.

The Jordanian experience developing TVET indicators has provided a starting point for a regional Mediterranean Observatory in a project supported by the European Commission (MEDA-ETE). [1]Jordan thus has a lot to give and to gain from engaging with other Mediterranean countries to develop regional indicators for TVET.

Main Results

Labour market developments

Jordan has a very young and growing population; hence an increased pressure on the education and training system must be predicted for the foreseeable future. The population (both men and women) continues to become better educated over time, but the part of the population which has less than secondary education is still more than six out of every ten adults. Compared to other countries, Jordan has a relatively high gender gap, i.e. female unemployment rates minus the male unemployment rates.

Large investments are thus still needed in education and training over the coming decades. Especially continuing training faces complex challenges with such large groups of poorly educated adults.

Labour force participation rates are higher for people with higher levels of education, although it must be noted that amongst the least skilled, men with less than secondary education are more active than men with secondary education. For men with higher education (intermediate diploma or above) the participation rates are around 50% higher than for men with secondary or less in educational attainment.

Even this marked difference is nothing compared to the difference found when examining participation rates for women. Almost no women with secondary or less participate in the labour market (3-7%). One out of every three women with intermediate diploma is active on the labour market and two out of every three women with a bachelor or above are also active. The Jordanian labour market is clearly divided into two very different labour markets along gender lines. Women in Jordan face much higher unemployment rates than men and for women the risk of unemployment does not decline with increased levels of education, as it does for men.

Unemployment is increasing amongst the best educated over time whereas it is declining amongst the least educated. There was thus a relatively larger demand for low-skilled staff in 2006 than there was in 2001. The trends are not uniform over the five year period though, so it should be interpreted cautiously.

www.meda-ete.net [1]

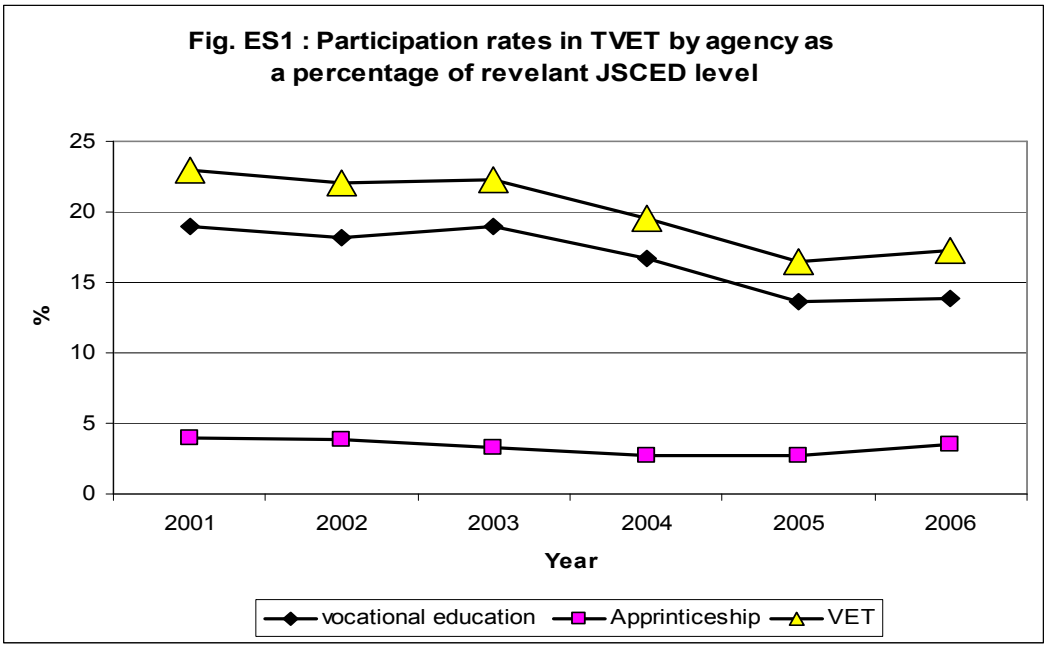
Equipping Jordanians for the world of work

This first main objective was analysed via an examination of the overall participation levels in TVET.

With the exception of apprenticeship programmes a decline in vocational programmes relative to other non-vocational programmes was noted from 2001 to 2006 in secondary education. Part of this decline however is related to a change in classification of programmes. Commercial education was reclassified as a general secondary programme in 2004 (and renamed information technology) and this reclassification explains the drastic drop from 2003 to 2004.

Overall the level of 13.3% of secondary students enrolled in TVET is comparatively low in comparison with selected other countries[2]. The proportion of technical/VET students in upper secondary is 68.0% in Netherlands, 31.8% in United Kingdom, 59.4% in Germany, 56.1% in France, 32.3% in Ireland, 63.3% in Egypt and 38.0% in Turkey, but not so far from the rates in another group which includes Morocco (12.0%) and Tunisia (7.9%), although these latter countries both have large numbers of students in training programmes, which are not covered by this indicator.

Fig. ES1 : Participation rates in TVET by agency as a percentage of revelant JSCED level



Source: Main TVET providers

Participation in apprenticeship programmes is increasing for both men and women. In absolute numbers there have never been as many apprentices as in 2006. The increase in relative popularity since 2004 is linked to VTC having opened 12 small size vocational training centres between 2004 and 2006 and offering new programmes. Exempting trainees from paying training fees has also helped make these offers more attractive. It is not yet clear to what extent the employers are interested in apprentices, as currently the number of apprentices is determined by the number of places made available by the government. The current levels must however be below the levels which the employers can accommodate as students still find apprenticeship spots.

[2] Data taken from the UNESCO Institute for Statistics, which uses UN population figures in its estimations and arrives at a different estimate for Jordan: 17.5%. Data for all countries, except France (2005) and Egypt (2004), is from 2006.

Most of the VET students at secondary level are enrolled in secondary vocational education (79.5% in 2006) which may reflect a lack of apprenticeship places being offered.

It is harder to give an explanation for the decline in technician education. Technician education programmes have gone from a share of 17.1% of JSCED[3] level 5 enrolment in 2001 to just 10.7% in 2006. Part of the explanation undoubtedly lies with the increased intake in university education in programmes that are in direct competition with programmes in technician education. Culturally, academic programmes are the most prestigious, so when more places are made available in university education fewer students are interested in entering technician programmes.

The participation of women varies greatly between the three main types of TVET with a clear increase in participation since 2001. More than 61% of technician education students are female. In apprenticeship and applied secondary education programmes, the female participation rate has increased from 6.3% in 2001 to 27.9% in 2006. The increase in female students is attributed to the expansion of female vocational training centers and the offer of new programmes attractive to female students such as information technology, personal services and secretarial work. Higher female participation rates in apprenticeship programmes can thus be expected if more programmes are introduced, which cater to the concerns of women. The studies chosen vary from year to year and large variations in gender participation are noted at times, as the offered programmes change. This highlights the great importance which must be attached to which fields of study are being offered.

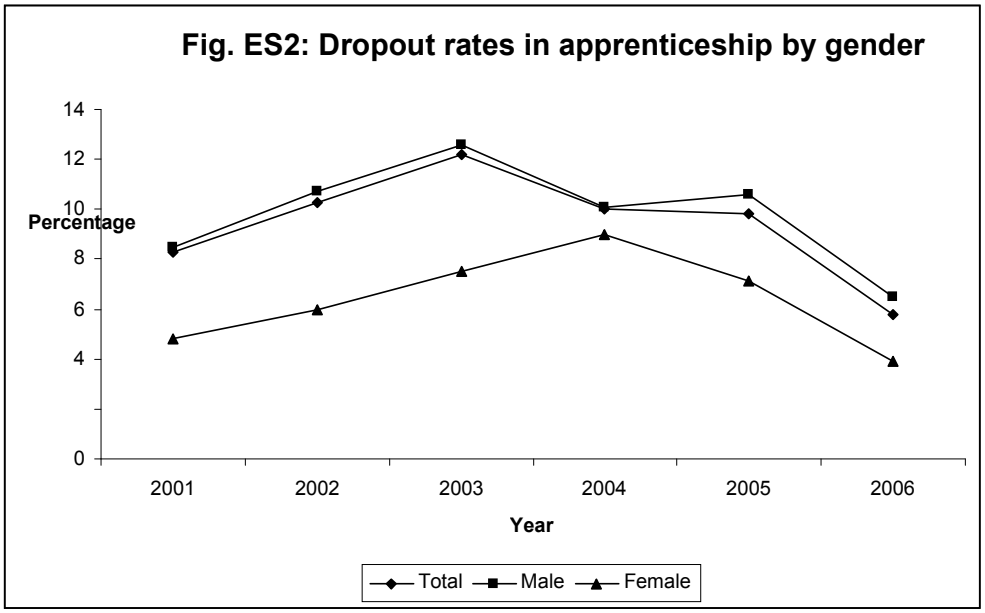
Achieving equitable outcomes in TVET

Equity is measured through the enrolment rates by gender. It was the intention of the Technical Committee to study equity across regions of Jordan and across age groups. Unfortunately the detailed data necessary for such analysis does not yet exist. Equity therefore refers to gender equity in this section and is measured through access and participation.

The available data generally shows that the gross enrolment rates by gender are becoming more equitable. The enrolment rate for women in apprenticeship and applied programmes is fast catching up with the male rate and similarly the enrolment rate for males in technician education is catching up with the female. It should be noted though that the latter may be declining due to more women taking advantage of the increased intake in university education.

Dropout rates in vocational education and vocational training are not similar (data are lacking for technical level). Vocational education figures are stable (1-2%) through the period 2001-2006. The rates are comparatively low and acceptable.
Drop out rates in apprenticeship/applied secondary education programmes are much higher. In the worst year (2003), as many as 12.3% of all students dropped out. Among other reasons, students drop out because of a lack of (i) effective counseling services, (ii) effective follow-up of students at the workplace and (iii) poor work relations within the work place. The drop out rate has since been brought down due to an improvement in training delivery. It is generally the case that women have lower drop out rates than men.

[3] Jordan Standard Classification of Education Systems – an adaptation of the international standard.



Source: VTC

Graduation rates vary greatly for each type of education programme and field of study. There is a tendency for women to experience higher graduation rates than men, especially in commercial, agricultural and home economics. Men do equally well as women in terms of graduating in fields such as industrial and nursing (although very few men chose the latter field of study). Only nursing routinely has graduation rates over 50%. This is a worrying tendency as non-graduation is a waste of human and financial resources. Stronger efforts must be made to increase the quality of the education to retain students and turn them into successful graduates.

Information on graduates by field of study is not available for apprenticeship programmes. Overall the graduation rates for JSCED 4 are substantially higher than for JSCED 3, even as the latter is improving from 53% in 2001 to 67% in 2006. A detailed study for the reasons behind this difference is recommended. Possible causes range from better educational background of the students, to more efficient teaching methods with a greater emphasis on the individual student.

Rationalising investment in training

The indicators linked to this main objective focuses on the resources going into education and training.

The allocated resources for TVET in general as a percentage of GDP is fairly low. More than 90% of the TVET expenditure are spent on staff salaries.

The current public expenditure in vocational education for the period 2001-2006 is slightly decreasing, while the GDP is steadily increasing for the same period. As a result, the percentage of current public expenditure in vocational education to gross GDP is steadily decreasing.

In VTC however the current public expenditure is steadily increasing and keeping pace with the increase in GDP throughout the period.

Information regarding the current public expenditure in technician education is not available.

Another measure is to compare the development in education expenditure with the development in public expenditure as such. In other words measure the relative weight of education amongst other public expenses. Both the current vocational education expenditure and the public expenditure are decreasing for the period 2001 - 2005. The percentage of vocational education expenditure to total public expenditure is slightly increasing. Simultaneously the current vocational training expenditure slightly increased for the period 2001-2006 and the percentage of vocational training expenditure to total public expenditure almost doubled in 2005 compared to 2001. These changes may be explained by privatizations, which have lessened the role of the public sector in the Jordanian economy.

Nevertheless, public expenditure per student in vocational education and training can not meaningfully be calculated and compared on the basis of the available data. There are large overhead expenses such as salaries of educational inspectors and shared administration which are not included in the costs for vocational education as these costs are covered by other budget lines in MOE. At the same time vocational training institutes carry costs that are not directly related to the training they provide. All of these phenomena contribute to widening the difference in apparent cost per student between vocational education and vocational training.

Information regarding the current public expenditure in technician education is not available**.** BAU should avail such information in order to measure how rational their investment in technician training is.

Information regarding relative proportions of public and private investment in educational institutions**,** and funding of TVET by sources and type of education and training is not available.

Maximising the value of public TVET expenditure

The last main objective takes a first look at efficiency issues in the Jordanian TVET sector, mainly through an examination of the qualifications of teachers in Jordan. Information regarding cost per contact hour in technician education, graduate cost per programme and teaching load per teacher are not available. It is highly recommended to request training providers to make such information available.

Cost per contact hour

While the cost per contact hour increased in vocational education, there is still an important difference regarding the cost of contact hour per student which is more than for vocational training.

This may be explained by the reduced number of students at VTC and the cost of buildings and maintenance which is shared with general education at MoE.

The issue of non-comparability however is still so dominant that firm conclusions can not be drawn on the basis of the current data. More refined data on the costs are needed to compare costs per student and per contact hour in vocational education and training. What can be concluded is that more resources are available in later years for vocational education students than in 2001.

Teachers

In the absence of better data on the quality of the teachers, the report looks at the age and gender distribution of the teachers. It is noticeable to say that while the percentage of female teachers in vocational education is decreasing from

47.0% in 2001 to 32.7% in 2006, it increased from 7.2% in 2001 to 17.4% in 2006 at VTC. With the introduction of new courses targeting female students more female teachers were needed.

Remarkably, the total number of male and female teachers in vocational education and the total number of teachers (trainers) in vocational training increased from 2001 to 2006. The total number of teaching staff in technician education (community colleges) steadily increased, while the ratio of female teachers slightly decreased from 29.6% in 2001 to 26.5% in 2006.

Age pyramid of the teachers
In general one may say that the body of teachers in Jordan is under deep modification and the arrival of young teachers should be an opportunity to boost the reform process, modernize training capacities and increase quality delivery. The youngest generation of teachers (0-5 years of experience) at MoE is now the most important cohort (up from 29.8% in 2001 to 37.8% in 2006) due to expansion and substitution of early retired staff. At VTC the largest group of teachers is formed of those who have more than 16 years of practice. It is steadily increasing from 28.7% in 2001 to 38.2% in 2006. The percentage of teachers having (0-5) years of experience is steadily increasing from 17.6% in 2001 to 35.3% in 2006.

Recommendations for the E-TVET Council

The present section proposes options for further discussion leading to policy decisions. It focuses on each of the main objectives described earlier and directly addresses the highest governance body, namely the E-TVET Council in charge to pilot the reform of the sector and to ensure a solid evidence base for future decision-making.

Recommendations linked to specific sector reform objectives

Equipping Jordanians for the world of work;

To improve employment opportunities, it is recommended that the E-TVET council considers:

- developing an E-TVET sector strategy for guidance and counseling to help individuals start, manage and improve MSMEs (micro, small and medium enterprises);
- promoting entrepreneurship culture within the system of education in general and in TVET system in specific;
- developing and implementing the concept of training for employment with the partnership of employers - national training and employment projects can play an active role in this respect;
- carefully studying training programmes and trade specializations offered in TVET institutions and link these to local labour market needs as well as labour market needs throughout the Arabic region;
- enhancing the flexibility and competence basis of training programmes to provide employment flexibility; and
- analyzing the occupational patterns and specializations of women and the links with women's employment opportunities.

Enhancing upper and horizontal mobility in the labour market

To improve the participation rate in TVET in general and in VET in specific, the E-TVET council may adopt a policy objective aiming at:

- Increasing the participation rate in TVET from 12.1% in 2006 by a specific percentage (2-3% as an example) annually for a specific period (10 years as an example); and
- Increasing the participation rate in VET from 13.3% in 2006 by a specific percentage (2-3% as an example) annually for a specific period (10 years as an example).

Achieving equitable outcomes and Performance of the TVET system

To improve the performance of TVET in terms of completion rates, dropout rates and percentage of graduates, the E-TVET council may consider the following:

- set up an expert team to study and analyze the problem to identify the real, not felt, causes and suggest practical solutions;
- develop student centered training methodologies; and
- develop effective guidance and counseling mechanisms.

Rationalizing investment in training

To ensure the efficient and effective use of current public expenditure, the E-TVET council may consider:

- carefully studying and analyzing the current expenditure per student in each programme and trade specialization to identify the most cost-efficient approaches. The allocation of public expenditure may be based on outputs rather than inputs to encourage healthy competition in training institutions;
- giving TVET providing institutions the power to explore and implement income generation activities such as providing consultancy services and production through training without negatively affecting the quality of training; and
- allowing the TVET fund, under certain conditions, to fund training for employment courses offered by TVET institutions.

Ensuring a solid evidence base for policy making

To ensure a solid evidence base for policy making, the E-TVET Council may consider:

- Continuing to develop more indicators as a basis for analysis. Such indicators should be driven by changes in objectives. Initial plans for work in 2008 include developing indicators on transition, continuing TVET, workplace training, internal and external efficiency, output performance and others;
- Supporting regular analysis and studies of issues relating to E-TVET. Such analysis should be given the necessary resources and anchored in an institution - the NCHRD could be considered for this coordination;
- Securing inputs in the form of data and information from each TVET provider (public and private including the Chambers of Commerce and Industry) through the creation of formal and sustainable commitment from these institutions. To ensure continuity it is advised that each institution dedicates the necessary resources to this task in the form of an institutionalized technical team with responsibility for developing and providing the required data to the coordinating institution (NCHRD);
- Providing the necessary funding to the NCHRD to undertake a coordinating and analytical role; and
- Requesting the NCHRD to maintain stable links to other actors. A free exchange of information and data and tight coordination of activities must take place for all actors to fulfill their role.

1- Introduction

1.1 Purpose of this Publication

Most countries in the world have implemented information systems, but the ever-increasing size of education systems, and the complex ways in which they work, have prompted a need to explain the justifications and arguments that lie behind education strategies and actions. This imperative has sometimes been further accentuated by the search for an efficient way of using resources in a context of growing shortages. This is the reason for the emergence of an ever-increasing need to develop or reinforce information systems so that they are integrated as key components in planning and decision-making processes.

The problem as regards TVET is even more complex as, in addition to data on initial training, the information system needs to include data on continuing vocational training, vocational transition (i.e. the transition from training/education to employment), the global functioning of the labour market, and most particularly on people passing through the training system. It is therefore necessary to cover a number of fields, and use a range of sources of information to obtain a consistent set of information.

Decision-makers are interested in the effects that their actions have, and it is therefore essential to have data on the current year that are sufficiently accurate for measuring the effect of a recent policy. Ministers need indications of the effect that their guidelines and actions have had, and parents want to use data relating to the schooling that their children are currently receiving.

A system of indicators must function like an instrument panel, facilitating the identification of problems and measuring their substance. Detailed diagnosis and the search for solutions will take place through complementary analysis and research. At this point, we might evoke the classic, but appropriate picture of a light warning that an engine is about to overheat. When it lights up, a specialist must look for the reasons, and find solutions in order to solve the problem. In short, TVET indicators play a fundamental role in directing and evaluating the TVET system, but they do not in themselves contain the answers to the questions they raise.

In Jordan the TVET system is divided into 3 subsystems according to the provider, these 3 subsystems are Vocational secondary education which is provided by MOE,Applied secondary education and Vocational training which is provided by VTC, and technician education which is provided by public and private community colleges under the supervision of BAU. Section 1.3 gives a brief description of the education system.

The aim of this publication is to inform about the main recent developments in TVET sector in Jordan and provide decision makers with policy recommendations needed to improve the quality of the TVET sector in Jordan.

a- Defining TVET policy objectives
Indeed, to be able to evaluate the TVET policy or plan correctly, it is vital to be able to explain the desired objectives clearly, TVET policies and plans do not

generally set out their objectives precisely. They therefore have to be extracted from education policy statements and official texts, and these redefined objectives then have to be validated by the people responsible for the policies or plans.
In Jordan recent initiatives have demonstrated the commitment of the Jordan Government and the stakeholders from private and public Employment and TVET sector to launch series of reforms aiming at attracting Jordanians to join the workforce in the labour market.

In order to support these efforts and considering that reform would not be possible without a comprehensive vision based on factual elements and related statistics transformed in a set of key indicators, the European Training Foundation supported a project initiated in 2003 aiming at collecting and analysing the Human Resources information available in Jordan. This project based on strong networking and involvement of direct actors of the TVET sector, aims at providing Jordan stakeholders with sustainable and long lasting capacity to monitor the evolution of the TVET sector.
A technical committee, composed of representatives from public and private institutions acting in the field of TVET has been set up in 2005 to develop specific quantitative TVET indicators. The Technical Committee was supported in this work by a local ETF expert and had additional support from the international ETF experts through occasional workshops hosted by NCHRD.
The Technical Committee succeeded in identifying five major objectives for the TVET system in Jordan derived from national policy documents including (i) The National Strategy for Human Resources Development, 1999, (ii)The E-TVET strategy,2006, (iii) The National Agenda and (iv) Policy Statement of MOE, MOHESR and VTC.
These five major operational objectives are:
1- Equipping Jordanians for the world of work either waged or self-employment;
2- Enhancing upper and horizontal mobility in the labour market;
3- Achieving equitable outcomes in TVET;
4- Rationalising investment in training;
5- Maximising the value of public TVET expenditure.

1.2 Grouping of Indicators

The kind of presentation that best facilitates analysis for the reader is one where the indicators are grouped in a manner that describes i) the Resources, ii) Activities or the Process and finally iii) Outcomes. This grouping of the indicators comes closest to an explanatory model of education and training systems. In practice, the three components are linked by close, multidirectional relationships. It is also possible to add characteristics of the socio-demographic environment that interact with each of the component. For this specific reason a general category named 'context' was added, to stress the link between indicators and objectives. Seven categories reflecting the major objectives were finally agreed upon for which groups of indicators could be defined:
1. The Jordanian context: this group reflects the context indicators
2. Participation in TVET: this group reflects the major objective of equipping Jordanians for the world of work;
3. Enhancing upper and horizontal mobility in the labour market[4];

[4] Considering that the second major operational objective 'enhancing upper and horizontal mobility in the labour market' may not be measured with the existing data available the technical committee suggested to further develop another set of indicators, which will have to await further refinement of the available data before it can be fully exploited.

4. Access to TVET: this group reflects the major objective of "Achieving equitable (outputs and outcomes)";
5. Performance of the TVET system: this group reflects the major objective of " Performance/ Outcomes indicators ";
6. Resources for TVET: this group reflects the major objective of " Rationalising investment in training" (performance of TVET System);
7. Maximising the value of public TVET expenditure (resources).

The following table presents the list of indicators related to each identified major objectives as well as the context. It should be noted that no indicators relate to the major objective of "enhancing upper and horizontal mobility in the labour market".

List of quantitative TVET Indicators in Jordan

I. Context indicators (context)

1	Educational attainment for population (15 years+) by age and gender.
2-a	Labour force participation rate by educational level and gender.
2-b	Unemployment rate by age, gender and educational level.
3	Gross domestic product per capita.

II. Equipping Jordanians for the world of work (participation)

All TVET	
4	Participation rates in TVET as a percentage of all participants of education/training.
5a	Participation rates in TVET by agency as a percentage of all participants of education/training.
5b	Participation rates in TVET by agency as a percentage of the relevant JSCED level.
Apprenticeship/Applied secondary	
6	Percentage of apprentices/ applied secondary education to total TVET participants.
7	Distribution of apprentices/applied secondary education by gender and specialization (number or percentage) to total participants.
Vocational Education	
8	Percentage of vocational education students to total TVET participants.
9	Distribution (number or percentage) of vocational education students by gender and type of education.
Technical/Technician Education	
10	Percentage of students in technical/ technician education to total TVET participants.
11	Distribution (number or percentage) of participants in technical / technician education by gender, age and specialisation.

III. Achieving equitable outcomes (outputs and outcomes)

Access for equity groups	
12	Gross enrolment rate in TVET by gender.
13	Net enrolment rate in TVET by gender.
14	Gross enrolment rate in TVET by region, and gender.
15	Net enrolment rates in TVET by region, and gender.

Performance/ Outcomes indicators	
16	Completion rates in TVET by programme, and gender.
17	Dropout rates in TVET by gender, and programme.
18	Percentage of graduates in TVET by gender and programme.

IV. Rationalising investment in training (resources)

19	Percentage of current public educational expenditure in TVET to gross domestic product (GDP).
20	Public educational expenditure in TVET to the total public expenditure.
21	Public expenditure per student by type of education and training
22	Relative proportions of public and private investment in educational institutions.
23	Funding of TVET by sources and type of education and training.

V. Maximising the value of public TVET expenditure (outputs)

24	Cost per contact hour.
25	Graduate cost per programme.
26	Teaching load per teacher.
27	Teachers' qualifications.
27-a	Teachers' qualifications by gender, and educational level.
27-b	Teachers' qualifications by gender, and years of experience.
28	Cost of in service training for teaching staff by institution.

1.3. The education system in Jordan

a- Structure

According to Education law No.3 of the year 1994, education in Jordan is classified into three cycles: pre-school, basic and secondary education.

- **Pre-school education cycle**
  Two years maximum in kindergarten cycle, although it is not compulsory, it is an official cycle in the educational ladder. This cycle is free in government kindergartens, although the majority of kindergartens belong to the private and voluntary sectors. The responsibility of the Ministry of Education concerning the kindergarten cycle covers also the licensing of kindergartens as well as providing supervision. Most kindergartens are co-educational and located in urban areas. Children join the kindergarten at 4 years old (the minimum age is 3 years 8 months).

- **Basic Education Cycle**
  Basic education consists of ten years of compulsory education from 1st grade to 10th grade. Students join basic education at the age of 6 years (the minimum age is 5 years 8 months) and complete the 10th grade usually at the age of 16 years. The Basic Education cycle is free of charge (tuition and textbooks in public and UNRWA schools).[5]

[5] UNRWA (The **U**nited **N**ations **R**elief and **W**orks **A**gency for Palestine Refugees in the Near East) is a relief and human development agency, providing education, healthcare, social services and emergency aid to refugees living in the Gaza Strip, the West Bank, Jordan, Lebanon and the Syrian Arab Republic.

The goals of education in the Basic Education Cycle focus on the comprehensive growth of the individual (physically, mentally, socially and emotionally).
Basic education services are provided by Ministry of Education accommodating 73%, the private sector 16%, UNRWA 10% and other governmental institutions 1%. Most basic educational schools are co-educational.

- **Secondary Education Cycle**
  This two years cycle covers grades 11 and 12. It is not compulsory, but is free of charge in public schools. The focus of education in the Secondary Education Cycle, in addition to those in Basic Education Cycle, is directed towards social needs and socio-economic development requirements.
  This cycle consists of two streams:
  - The Comprehensive Secondary Education, which can be either academic or vocational, and usually ends with General Secondary Education Certificate (GSEC) exams required to continue higher education in community colleges or universities.
  - The Applied Secondary Education (formal vocational training / apprenticeship) which aims at preparing students for the labour market.

VTC is the main provider for applied secondary programmes. According to the occupational skill levels, these programmes are:

- **Skilled Worker Level Training Programme (JSCED level 3)**
  This apprenticeship programme is open to students after the successful completion of the basic education cycle (i.e. the 10^{th} grade) as a minimum requirement. Programme duration ranges between 1 and 2 years depending on the complexity of the specialization.

- **Craftsman Level training Programme (JSCED level 4)**
  It is open to the students after completion of the secondary cycle (12^{th} grade) or Skilled Worker Level as a minimum requirement (these programmes are not considered as higher education). The programme leads to the craftsman level grade II certificate. Programme duration ranges between 1 and 2 years depending on the complexity of the specialization.
  Training is conducted in both training centers and working sites as in the dual system or alternance training.

Post-secondary (Tertiary or Higher) Education

The post – secondary education system consists of intermediate university level (community colleges) and universities. Access to the post-secondary education system generally is limited to those who complete the basic and secondary (comprehensive academic or vocational streams) education cycles and successfully pass the GSEC exams.

There are approximately 50 public and private community colleges offering two year programmes of study. Based on successful completion of the BAU administered Associate Certificate (AC) examination (referred to as *al-Shamel*) at the end of two years, students graduate with Associate certificate (AC). Community colleges offer over 100 specializations representing academic and vocational programmes of study. Minimal admission standards for community colleges are established by the BAU and generally are lower than those expected for entrance to university (usually in the 50-60% mark score range). Most community college programmes are terminal; there is limited potential to transfer to the university system. A majority of community colleges are administered by the private sector (42%), followed by the BAU (36%), other government departments (18%) and UNRWA (4%).

2. The Jordanian context

The aim of this chapter is to address the main current developments regarding the educational attainments of Jordan population 15 years + , the labour force participation rates and unemployment rates by age, gender and educational level .

2.1 Educational attainment for population (15 years+) by age and gender.

As open trade becomes less regulated countries are increasingly dependent on the skill level of the workforce. An increasingly important aspect of labour market performance and national competitiveness is the skill level of the workforce. In Jordan (and many other countries) information on levels of educational attainment is currently the best available indicator of labour force skill levels. These are important determinants of a country's capacity to compete successfully in world markets and to make efficient use of rapid technological advances; they are also among the main factors determining the employability of workers.

The total estimated population of Jordan stood at 5.6 million in 2006. Women constitute 48% of the population. **One third of the population (32.3% in 2006), which is almost evenly split between men and women, are students at different stages and levels of education.** This is partly due to the fact that Jordan has a very young population as a result of several years of high population growth rates, and it is partly due to the human resources development polices and to upward and horizontal expansion of educational institutions which resulted in increasing the enrollment capacity.

Fig (1) shows the distribution of Jordanian population age 15+ years by gender and educational levels. **Overall the distribution has not changed dramatically in the last six years**. The detailed data in percentages is reproduced in table (1).

Fig(1): Jordanian population age 15+ by gender and educational level

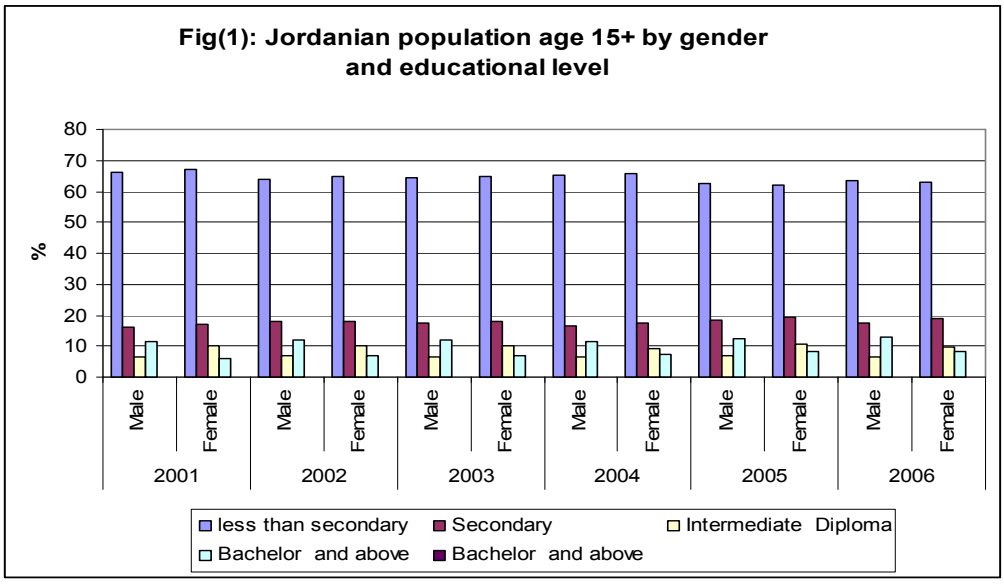


Table (1) shows the percentages of Jordanian population age 15+ years by gender and educational levels for the period 2001 through 2006. The table shows a decrease in the percentage of those with less than secondary educational level (JSCED level 1 and 2) and slight increase in the percentage of those at secondary education level (JSCED level 3) while it is stable for intermediate diploma (community colleges) and increasing slightly for those holding bachelor degree and above (JSCED level 5 and 6). **Clearly the Jordanian population is becoming better educated over time and this improvement is happening for both men and women, but the speed with which the population is becoming better educated needs to increase if Jordan is to be adequately prepared for the challenges of tomorrow. The segment of the population with less than secondary education still numbers more than six out of ten adults.**

Table (1): Percentage Distribution of Jordanian population age 15+ years by gender and Educational levels

Years	Gender	total	Less than Secondary	Secondary	Intermediate Diploma	Bachelor and above
2001	**Male**	100.0	66.0	16.3	6.5	11.3
	Female	100.0	67.0	17.0	10.0	6.0
2002	**Male**	100.0	64.0	18.0	7.0	12.0
	Female	100.0	65.0	18.0	10.0	7.0
2003	**Male**	100.0	64.2	17.4	6.5	11.8
	Female	100.0	65.0	18.0	10.0	7.0
2004	**Male**	100.0	65.5	16.4	6.6	11.5
	Female	100.0	65.8	17.5	9.4	7.3
2005	**Male**	100.0	62.5	18.4	6.9	12.3
	Female	100.0	62.0	19.3	10.6	8.1
2006	**Male**	100.0	63.3	17.5	6.3	12.8
	Female	100.0	62.9	18.8	9.8	8.5

Source: Calculation from Almanar data base according to DOS Annual report of employment and unemployment survey

Table (2) shows the distribution of Jordanian population age 15+ years by gender and age group for the period 2001 through 2006. From the table the percentages are approximately stable. **Even a quick glance at the table reveals that the population in Jordan is very young. There is a bulge of young people about to enter the labour market at the higher end of the education system. Both the education system and the labour market will have to adapt to cope with increasing numbers for years to come.**

Table (2): Percentage Distribution of Jordan population age 15+ years by age group and gender

Age group	2001			2002			2003			2004			2005			2006		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
15-19	12.3	12.7	12.0	12.3	12.5	12.0	12.7	13.0	12.4	12.2	12.6	11.9	11.8	12	11.6	١٢.٠	١٢.٢	١١.٧
20-24	10.4	11.2	9.5	10.3	10.8	9.9	10.9	11.6	10.1	10.7	11.3	10	10.3	10.8	9.9	١٠.٣	١٠.٨	٩.٨
25-29	7.9	7.8	8.0	8.1	7.9	8.2	7.7	7.7	7.6	7.8	7.6	7.9	7.9	8.0	7.7	٧.٩	٨.١	٧.٧
30-34	6.8	6.4	7.2	6.8	6.6	7.1	6.5	6.1	7.0	6.8	6.5	7.2	6.7	6.4	7.0	٦.٥	٦.١	٦.٩
35-39	5.4	5.2	5.7	5.2	5.1	5.3	5.6	5.2	5.9	5.7	5.4	6.1	6.1	5.8	6.4	٦.٠	٥.٧	٦.٢
40-44	3.9	3.6	4.3	3.9	3.6	4.1	4.4	4.0	4.8	4.6	4.3	4.9	4.8	4.6	4.9	٥.١	٤.٩	٥.٣
45-49	3.2	3.1	3.3	3.0	3.0	3.1	3.4	3.2	3.7	3.5	3.3	3.7	3.6	3.5	3.7	٣.٧	٣.٦	٣.٩
50-54	2.8	2.6	3.1	2.8	2.7	3.0	2.8	2.6	2.9	2.8	2.7	2.9	2.7	2.6	2.8	٢.٨	٢.٧	٣.٠
55-59	2.7	2.7	2.7	2.4	2.4	2.3	2.8	2.7	2.9	2.5	2.4	2.6	2.5	2.4	2.6	٢.٥	٢.٤	٢.٧
60-64	2.2	2.3	2.0	2.1	2.1	2.0	2.3	2.4	2.2	2.4	2.3	2.4	2.2	2.3	2.1	٢.٤	٢.٤	٢.٣
65+	3.7	3.8	3.7	3.3	3.3	3.3	3.8	4.0	3.6	3.9	4.2	3.7	3.7	3.9	3.5	٤.٠	٤.٢	٣.٨

Source: DOS Annual Report on Employment and Unemployment Survey

2.2 Labour force participation rate by educational level and gender.

The labour force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work; it provides an indication of the relative size of the supply of labour available to engage in the production of goods and services. The breakdown of the labour force by gender and age group gives a profile of the distribution of the economically active population within a country.

Jordan has a labour force of around 1,224,000 with a large gender disparity. **Women constitute 48% of the population but their economic participation rate does not exceed 12 % (11.9% in 2006). This is particularly visible when comparing with neighbouring countries.** The refined labour force participation rate is approximately stable through the period 2001-2006, and ranges from 37.4 (the lowest) in 2003 to 38.8% (the highest) in 2001, whereas according to ILO data it was 73.2% in eastern Asian region in 2003, 45% in Egypt in 2001, 49.7% in Syria in 2004, 51.9% in Morocco in 2005 and 46.3 in Tunisia in 2005. Primarily this total low participation rate is due to the high number of youth who are still studying and in particular the low female participation in the labour market, which is very low compared to countries in the rest of the world as well as in the region.

Fig (2) shows the distribution of the labour force participation rate by gender and educational level. **Whereas men at all educational levels are active in the labour market, only women with more than secondary education are to any significant extent active.** It is only for the group with intermediate diploma or above that more than 50% of the women are active. **For both genders the labour force participation increases in general with the level of education.**

Fig (2): Labour force participation rates by educational level and gender

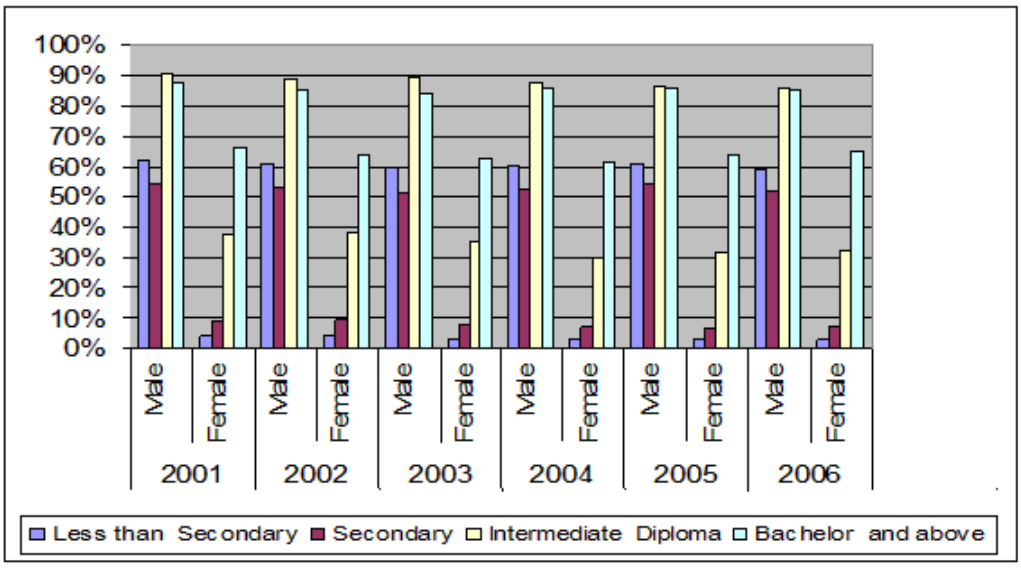


Table (3), shows the labour force participation rate by gender and educational level through the period 2001- 2006. From the table there are striking gender differences in the participation patterns according to education. In general**, the higher the level of education, the higher is the labour force participation rate. For women the increase in labour force participation rates is exponential with the increase in education. Very few women with low education levels work, whereas two thirds of females having a bachelor or higher degree work. Only women with at least a bachelor degree thus have labour force participation rates that resemble those found in industrialised countries.**

Table (3): Jordanian Labour force participation rate by gender and educational level

Years	Gender	Less than Secondary	Secondary	Intermediate Diploma	Bachelor and above	Total	Total M+F
2001	**Male**	62.1	54.5	90.5	87.3	65.5	**38.8**
	Female	3.9	8.9	37.6	66.4	11.7	
2002	**Male**	60.9	53.0	88.6	85.1	64.2	**38.4**
	Female	3.9	9.3	38.6	64.1	12.3	
2003	**Male**	59.9	51.3	89.6	83.8	63.2	**37.4**
	Female	3.1	7.5	35.7	63.0	11.2	
2004	**Male**	60.2	52.7	87.5	86.0	63.7	**37.4**
	Female	2.8	6.9	30.3	61.6	10.4	
2005	**Male**	60.7	54.5	86.5	85.8	64.4	**38.3**
	Female	3.0	6.5	32.2	64.1	11.7	
2006	**Male**	59.3	52.2	86.0	85.5	63.1	**37.7**
	Female	2.9	7.1	32.3	65.0	11.9	

Source : Calculation from Almanar data base according to DOS Annual report of employment and unemployment survey

Table (4) shows the participation rates in some selected countries. Jordan has the lowest participation rate among the list. **The female participation rate is the lowest in the Arab states. The gender gap (male participation rate minus the female participation rate) is very high in Jordan, ranging from 52% to 53.3% whereas it was 25.5% at the international level in 2003.** The female participation rate must be brought up if Jordan is to have a gender gap similar to other countries. Even countries like Syria, Morocco and Turkey which all have high gender gaps have significantly higher levels of female labour market participation.

The high gender gap in Jordan leads to a massive waste of resources, as a large segment of the population is being educated, but the education only serves to enrich the individual and does not get used on the labour market. This is not an argument against providing education to women. Rather it is an argument that Jordan should better use its human resources, in this case work towards making the labour market a more attractive option for women.

Table (4): Labour force participation rates by gender in some selected countries

Country	2003			2004			2005		
	M	F	gender gap*	M	F	gender gap*	M	F	gender gap*
Jordan	63.2	11.2	52.0	63.7	10.4	53.3	64.4	11.7	52.7
Syria	75.3	18.7	56.6	83.8	16.7	67.1	-	-	-
Tunisia	-	-	-	-	-	-	68.5	24.4	42.1
Morocco	77.4	27.3	50.1	77.5	28.4	49.1	76.9	27.9	49.0
Japan	74.1	48.4	25.7	73.4	48.2	25.2	73.3	48.4	24.9
Korea	74.6	48.9	25.5	75	49.9	25.1	74.6	50.1	24.5
Germany	65.4	49.3	16.1	64.9	48.9	16.0	65.9	42.3	23.6
Turkey	70.4	26.6	43.8	72.3	25.4	46.9	72.2	24.8	47.4

***Gender Gap= %M-%F**
Source http://laborsta.ilo.org

Table (5) shows the labour force participation rate by age group and gender. The participation rates are almost stable for each age group through the period 2001-2006. It is clear from this table that not even young women are active on the labour market. Almost all the men in the age group of 25-39 years of age are active (92-94%), whereas this is only the case for around one in five women. The fact that the younger women (20-24 years old) exhibit a similar labour force participation rate as the slightly older women can be interpreted as a sign that more and more young women are indeed prepared to enter the labour force. The corresponding comparison for men displays an increase in labour force participation rate of around 20 percent point, when comparing the age group of 20-24 to the age group of 25-34.

Table (5): Labour force participation rate by age group and gender

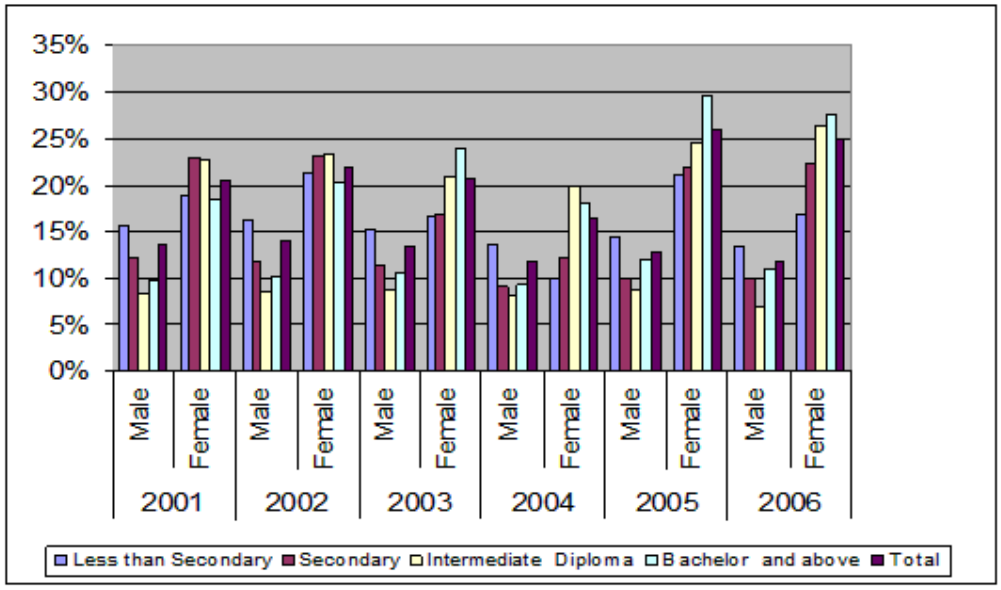
Age group	2001			2002			2003			2004			2005			2006		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total	38.8	65.5	11.7	**38.4**	**64.2**	**12.3**	**37.4**	**63.2**	**11.2**	**37,4**	**63,7**	**10,4**	**38.3**	**64.4**	**11.7**	**37.7**	**63.1**	**11.9**
15-19	13.0	23.7	1.4	12.0	22.2	1.2	12.4	22.8	1.1	12,9	23,7	1	12.1	22.7	0.9	10.9	20.1	1.0
20-24	48.3	73.0	18.4	46.3	70.3	18.2	45.8	69.1	18.3	44,1	67,9	16,3	45.1	69.5	18	45.8	69.4	19.4
25-39	55.8	94.1	19.5	56.4	93.3	21.2	55	92.9	18.8	54,7	93,4	17,6	55.5	92.5	19.4	55.3	91.8	19.7
40-54	45.2	84.6	10.7	44.3	82.4	11.0	44.2	82.6	10.3	43,7	81,3	8,8	44.6	80.2	10.5	44.7	80.8	10.7
55-64	25.2	47.1	2.0	23.7	44.2	1.6	22.6	43.2	1.3	22,4	43,5	1,4	22.7	43.6	2.1	21.4	41.6	1.4
65+	7.5	14.5	0.4	9.1	16.8	0.3	7.6	13.9	0.4	7,6	13,9	0,3	7.9	14.4	0.5	6.9	12.9	0.3

2.3 Unemployment rates by age, gender and educational levels.

The unemployment rate tells us the proportion of the labour force that does not have a job and is actively looking for work. It should not be misinterpreted as a measurement of economic hardship, however, although a correlation often exists[6].

Fig (3) shows the distribution of the unemployment rates by gender and educational levels for the period 2001 – 2006. Regardless of the educational level, women have higher unemployment rates than men in Jordan. For men the picture is relatively stable over time, whereas for women there appears to be a shift towards higher education increasingly leading to higher unemployment rates. **This is surprising in an international perspective where higher education is generally expected to lead to lower risks of unemployment.** The educated women are generally willing to work, but they can not find employment to some extent for social reasons. The challenge is therefore for Jordan to change the perceptions amongst employers, so women can start to contribute more fully to the labour market and society.

Fig (3): Unemployment rates by gender and educational level



Source: DOS Annual Report on Employment and Unemployment Survey

Table (6) shows the unemployment rates by gender and educational levels.
In 2006 the unemployment rate was 14 % (11.9% males, 25% females), that means that some 171,390 persons who want to work are without a job. **In 2003 the unemployment rate in Jordan was 14.9%, whereas it was 6.3% at the international level and 12.2% in the Middle East and North Africa (Arab States)**. Unemployment in Jordan is the main challenge which faces the Jordanian labor market. From table (6), the higher the educational level of females the higher the female unemployment rate and also for men it is noticeable that the highest levels of education have higher levels of unemployment than intermediate diploma and even, since 2004, than secondary education graduates. Employment data shows that education has a significant

[6] It is entirely possible to to be unemployed, but not experience any economic hardship, and it is similarly possible to be employed and nonetheless be poor.

impact on job opportunities. **Public sector accounts for the largest share of the job market in Jordan and is the favoured choice of new female entrants into the labour market.** Young graduates are attracted to public sector jobs because of the benefits like stable employment, working hours, retirement, social security, and social status. The causes of women unemployment include: the international and economical situations, a lack of career guidance and counseling for students, the chances to find satisfying job after graduation, no jobs compatible with their qualifications, the low wages proposed by firms, the gap between the skills of graduates and the needs of the employers, the social obstacles for women's full integration into labour market (family, specially fathers or husbands, are more selective for the female work place), a critical mismatch for women between education curricula and their aspiration linked to a balance with the family.

Table (6) also shows that unemployment is increasing amongst the best educated over time whereas it is declining amongst the least educated. There was thus a relatively larger demand for low-skilled staff in 2006 than there was in 2001. The trends are not uniform over the five year period though, so it should be interpreted cautiously.
The year 2004 in particular stands out with much lower overall levels of unemployment.

Table (6): Unemployment rates by gender and educational levels

Years	Gender	Less than Secondary	Secondary	Intermediate Diploma	Bachelor and above	Total	Total M+F
2001	**Male**	15.7	12.3	8.3	9.7	13.7	**14.7**
	Female	18.9	23.0	22.7	18.6	20.5	
2002	**Male**	16.3	11.8	8.4	10.3	14.0	**15.3**
	Female	21.4	23.2	23.3	20.4	21.9	
2003	**Male**	15.3	11.4	8.7	10.7	13.4	**14.5**
	Female	16.7	16.8	20.9	24.0	20.8	
2004	**Male**	13.7	9.0	8.0	9.2	11.8	**12.5**
	Female	9.9	12.2	19.9	18.1	16.5	
2005	**Male**	14.4	9.8	8.7	12.0	12.8	**14.8**
	Female	21.1	22.0	24.5	29.5	25.9	
2006	**Male**	13.4	10.1	6.8	11.0	11.9	**14.0**
	Female	16.8	22.4	26.3	27.6	25.0	

Source : Calculation from Almanar data base according to DOS Annual report of employment and unemployment survey

It is important to contrast the participation rates and the employment rates by gender to underline that **active women suffer unemployment to a bigger extent than men. In 2006, among the economically active population 11.9% of men and 25% of women are job seekers** (table 7). One active woman out of four is looking for a job. **Female unemployment is double the male rate. Female unemployment rate was almost stable up to 2003, in 2004 it dropped 4.3 percentage points then suddenly increased 9 percentage points in 2005.** This sudden increase can not be explained easily, although it may be linked to a contraction of the public sector. This should be further studied.

Table (7): participation and unemployment rates

year	Participation rate		Unemployment rate	
	M	F	M	F
2001	65.5	11.7	13.7	20.5
2002	64.2	12.3	14.0	21.9
2003	63.2	11.2	13.4	20.8
2004	63.7	10.4	11.8	16.5
2005	64.4	11.7	12.8	25.9
2006	63.1	11.9	11.9	25.0

Source: abstracted from tables 3 and 6.

Table (8) shows the unemployment rates by age group and gender. The youth unemployment is comparatively high. In 2006, it was 35.6% for the age group 15-19 years (35.4% for males, 40.4% for females) and 26.8% for the age group 20-24 years (22.1% for males, 45.8% for females). Young males are increasingly getting employed whereas for young women the situation appears to get worse in the last couple of years since 2004.

For youth the gender gap in unemployment is thus increasing.

Table (8): Unemployment rate by age group and gender

Age group	2001			2002			2003			2004			2005			2006		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total	14.7	13.6	20.6	**15.3**	**14.0**	**21.9**	**14.5**	**13.4**	**20.8**	**12,5**	**11,8**	**16,5**	**14.8**	**12.8**	**25.9**	**14.0**	**11.9**	**25.0**
15-19	37.9	37.6	42.4	38.0	37.8	42.3	37	36.9	38.6	31,6	31,9	23,3	38.8	38.7	41.1	35.6	35.4	40.4
20-24	27.1	24.2	41.1	28.9	26.1	41.7	28.2	24.8	43.6	24,1	22,2	33,2	28.7	23.6	50.7	26.8	22.1	45.8
25-39	10.9	9.7	16.3	11.4	9.7	18.3	10.5	9.5	15.1	9,6	8,9	13,2	11.6	9.5	21.1	11.3	9.1	21.2
40-54	6.3	6.8	3.0	6.2	6.6	4.1	5.3	5.7	2.9	4,1	4,4	1,6	5.1	5	6.2	5.2	5.0	6.5
55-64	3.1	3.3	0.0	4.4	4.6	1.2	3.1	3.1	3	3,1	2,9	7,7	4.2	4.1	6.5	5.3	5.4	2.9
65+	0.4	0.4	0.0	0.3	0.3	0.0	1.6	1.7	0	0,9	0,9	0	1.5	1.2	10.4	0.6	0.7	0.0

Table (9) shows the unemployment rates by gender in some selected countries for the period 2003-2005. **The gender gap (male unemployment rates-female unemployment rates) in Jordan is considerably high in comparison to regional and international levels.**

Table (9): Unemployment rates by gender in some selected countries

Country	2003			2004			2005		
	M	F	gender gap*	M	F	gender gap*	M	F	gender gap*
Jordan	13.4	20.8	**-7.4**	11.8	16.5	**-4.7**	12.8	25.9	**-13.1**
Algeria	23.4	25.4	**-2.0**	17.5	18.1	**-0.6**	-	-	**-**
Egypt	7.5	23.3	**-15.8**	-	-	**-**	-	-	**-**
Morocco	11.5	13.0	**-1.5**	10.6	11.4	**-0.8**	10.8	11.5	**-0.7**
Tunisia	13.9	16.2	**-2.3**	13.2	17.1	**-3.9**	13.9	17.3	**-3.4**
Turkey	11.0	10.0	**1.0**	11.0	10.0	**1.0**	10.0	10.0	**0.0**
Greece	6.0	14.3	**-8.3**	6.3	15.9	**-9.6**	5.8	15.2	**-9.4**
Germany	10.0	10.0	**0.0**	12.0	10.0	**2.0**	11.0	11.0	**0.0**
Korea	3.8	3.3	**0.5**	3.9	3.4	**0.5**	4.0	3.4	**0.6**
U.S.A	6.3	5.7	**0.6**	5.6	5.4	**0.2**	5.7	5.1	**0.6**

***Gender Gap= %M-%F**

Source http://laborsta.ilo.org

2.4 Gross domestic product per capita

The high growth rate in the economy was attained through growing sectors of manufacturing export oriented sector, fast growing transportation, textile and construction sectors. These sectors attained more than annual average of 10% growth rate. The high growth rate of the population moderated this high growth which reflected in attracting more employment especially in textile and construction, although most of the workers (95%) in construction are non Jordanians. Nonetheless, table 10 indicates a substantial improvement in GDP per capita in real terms. The unemployment remains more or less the same, so the rate of job creation manages to keep pace with the population growth.

Table (10): Gross domestic product per capita (Jordan Dinars)

Years	Current price	Constant price *
2001	1208	1140
2002	1237	1164
2003	1385	1206
2004	1515	1260
2005	1647	1335
2006	1805	1389

*** Constant price (1994 =100)**

Sources: *1-DOS Jordan in Figures 2000-200٦*
2-Central Bank of Jordan- monthly statistical bulletin

Conclusions

■ **Labour force participation:**

- The economically, active population (the labour force participation rate) in Jordan is low, 37.7% in 2006. The main reason is the very low female participation rate (11.9%) which is lower than most comparable countries.
- The higher the educational level of women, the higher the participation rate. For men the correlation between education and participation rates is equally clear, but less pronounced. For men the highest participation rate is found amongst holders of intermediate diplomas.
- The gender gap in participation rates in Jordan (more than 50%) is double the gender gap at the international level (25%). This also applies to the unemployment gender gaps.

■ **Unemployment:**

- Unemployment is one of the main challenges which the Jordanian labour market faces.
- The higher the educational level of women the higher the unemployment rate. The occupational pattern and specialisations of women should be further studied and analyzed.
- The unemployment rate in Jordan is comparatively high compared to regional and international levels. In 2003 it was 14.9 % compared to 6.3% at the international level, and 12.2% at the regional level (Arab States).
- Women suffer unemployment to a bigger extent than men. The female participation rate was 11.9% in 2006, whereas the unemployment rate was 25% for the same year. This represents a substantial waste in the education system, as too many receive an education without it benefiting the larger society. Efforts could be made to increase the female participation rate.

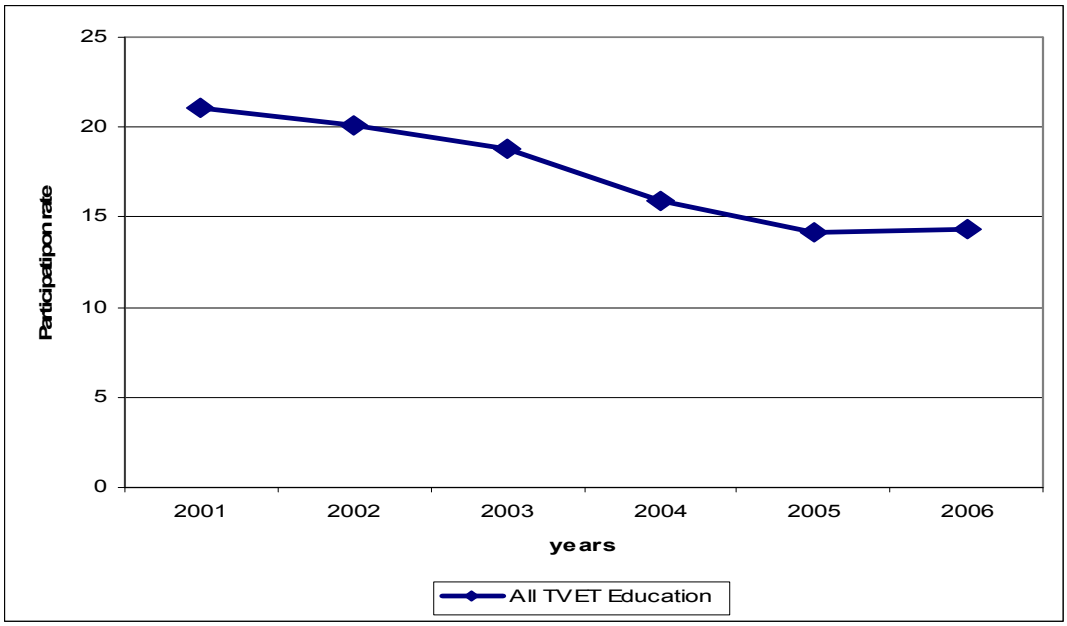
3. Participation in TVET

The aim of this chapter is to measure the achievement of the policy major operational objective "Equipping Jordanians for the world of work (participation)". **It addresses the main current developments regarding the participation rates in TVET as a percentage of all participation in education and training, by agency as a percentage of the relevant JSCED level and by type of education, programme and gender.**

3.1 participation rates in TVET as percentage of all participants of education/training

Figure (4) shows the participants in TVET [JSCED levels (3 + 4 + 5)] as a percentage of all participants in education and training for the same levels.

Fig (4): participation rates in TVET as percentage of all participants of education/training[JSCED levels (3 + 4 + 5)]



Source: The main TVET providers (Ministry of Education, VTC and Al-Balqa Applied University)

The participation rate in TVET as a percentage of total students in JSCED levels (3+4+5) is decreasing by 6.8 percent in 2006 compared to 2001.
This may be explained by:

- An expansion in secondary and university education institutions;
- Decreased enrollment in TVET. The decrease is partially due to shifting commercial education (more than 5000 students) from secondary vocational stream to general secondary stream since 2004. The proportion of TVET participants out of all students at the relevant levels is roughly stable from 2001 to 2003 and also for the period 2004 to 2006**.** When taking the reclassification of commercial education into account, we can therefore conclude that TVET programmes overall are as popular now as they were in 2001 with the possible exception of technician education, which will be discussed in greater detail later in this report. See tables (11) and (13)

Table (11)
TVET students in Jordan by TVET Providers years 2001-2006

Educational Information	Years					
	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
VTC Apprentices **(JSCED 3)**	6617	7285	5803	4867	4969	6278
MOE Vocational Education **(JSCED 3)**	31471	34074	33372	29309	24620	24850
Secondary education/ Academic stream **(JSCED 3)**	127798	145863	136418	140955	150483	148587
BAU Technician Education **(JSCED 4)**	27744	29177	26967	23920	24790	25743
University education(bachelor only) **(JSCED 5)**	118657	135090	150039	166598	178619	192042
Total VTE Students	38088	41359	39175	34175	29589	31128
Total secondary education (vocational and academic)	159269	179937	169790	170264	175103	173437
Total TVET Students	65832	70536	66142	58096	54379	56871
Total Students at JSCED 3 and 4 levels	193630	216399	202560	199051	204862	205458
Total Students at JSCED 4 and 5 levels	146401	164267	177006	190518	203409	217785
All Students in relevant JSCED level (Level 3+4+5)	312287	351489	352599	365649	383481	397500

JSCED level (Level 3+4) = secondary education + technician education
JSCED level (Level 3+4+5) = secondary education +technical education **+** university education (bachelor only)
JSCED level (Level 4+5) = technician education **+** university education (bachelor only)
VTE = Vocational education + Apprenticeship education

Table (12)
TVET students in Jordan by TVET Providers and gender years 2001-2006

TVET Providers	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
VTC						
Male	6202	6640	5096	4226	4241	4524
Female	415	645	507	461	728	1754
Total	6617	7285	5603	4687	4969	6278
MOE						
Male	16815	18052	17811	16169	13842	13944
Female	14656	16022	15561	13140	10778	10906
Total	31471	34074	33372	29309	24620	24850
BAU						
Male	8774	9945	9848	9359	9649	10011
Female	18970	19232	17119	14561	15141	15732
Total	27744	29177	26967	23920	24790	25743
Total TVET						
Male	31791	34637	32755	29754	27732	28479
Female	34041	35899	33187	28162	26647	28392
Total	**65832**	**70536**	**66142**	**58096**	**54379**	**56871**

3.2 participation rates in TVET by agency as a percentage of all participants of education/training

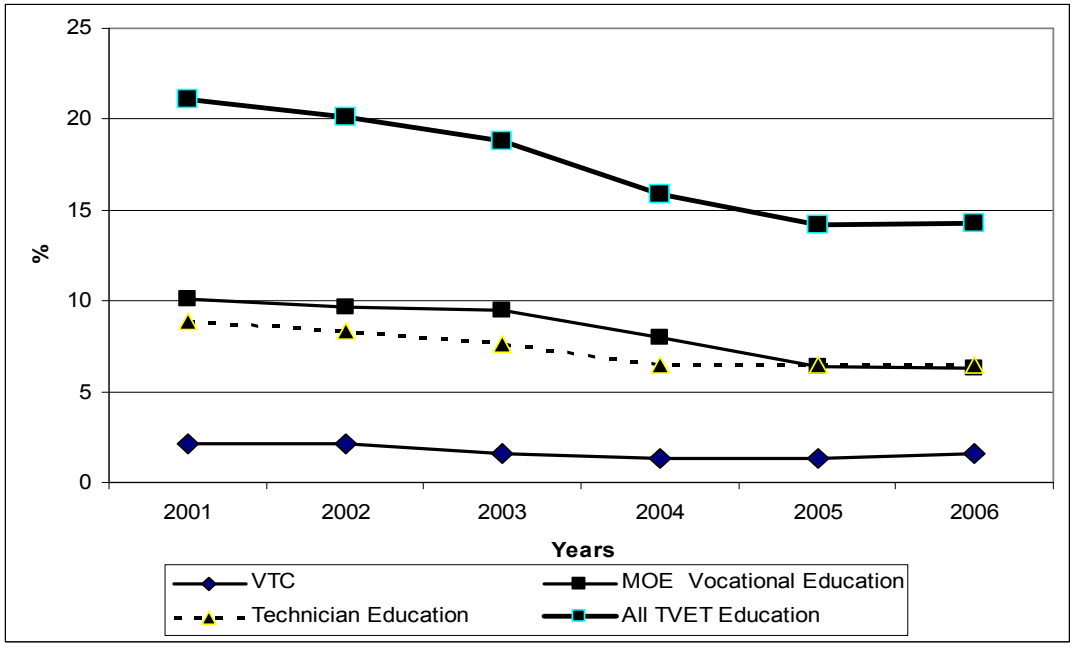
Figure (5) shows the participation rates in TVET by agency as a percentage of all participants of education/training (JSCED levels 3-5)

Table (13)

Participation rates in TVET by agency as a percentage of relevant JSCED levels (3+4+5) years 2001-2006

Agency	**Years**					
	2001	2002	2003	2004	2005	2006
VTC Apprentices	2.1	2.1	1.6	1.3	1.3	1.6
MOE Vocational Education	10.1	9.7	9.5	8.0	6.4	6.3
BAU Technician Education	8.9	8.3	7.6	6.5	6.5	6.5
Total	21.1	20.1	18.8	15.9	14.2	14.3

Fig (5): Participation rates in TVET by agency as a percentage of all participants of education/training JSCED levels (3+4+5)



Source: Main TVET providers

a- Participation rate of vocational education (MoE)

The participation rate of secondary vocational education was stable through the period 2001 – 2003, but dropped by 8.0% in 2004 due to shifting commercial education from secondary vocational stream to general secondary education stream in 2004 under the title of information technology. After this reclassification, vocational education regained its overall stability overall and has now settled at around 6.3% of all students in JSCED levels 3-5.

Table (14)

Percentage of vocational education students to total TVET participants

Years	**Total TVET Students**	vocational education Students	Percentage of vocational education students %
2000/2001	**65832**	**31471**	47.8
2001/2002	**70536**	**34074**	48.3
2002/2003	**66142**	**33372**	50.5
2003/2004	**58096**	**29309**	50.4
2004/2005	**54379**	**24620**	45.3
2005/2006	**56871**	**24850**	43.7

b. Participation rate of apprenticeship / applied secondary education (VTC)

The participation rate of apprenticeship / applied secondary education drops a bit from 2002 with the highest level of apprentices to a low level in 2004 before beginning to increase again. **By 2006 the level of apprentices in absolute numbers is the highest ever and in relative terms it is close to its peak from 2004**. This may be due to expansion and attraction factors. VTC established 12 small size vocational training centers between 2004-2006, offering new programmes and trainees were exempted from paying training fees.

Table (15)
Percentage of apprentices to total TVET participants.

Years	**Total TVET Students**	Total VTC Apprentices	Percentage of apprentices %
2000/2001	**65832**	6617	10.05
2001/2002	**70536**	7285	10.33
2002/2003	**66142**	5603	8.47
2003/2004	**58096**	4867	8.38
2004/2005	**54379**	4969	9.14
2005/2006	**56871**	6278	11.04

C. Participation rate of technician education

The participation rate of technician education (community colleges) is decreasing from 8.9% in 2001 to 6.5% in 2006. It appears to have stabilized around 6.5% as this has been the level for the last three school years. The decreasing number of students in technician education could be attributed to: lack of attractiveness of technician education programmes, admission by universities since 2004 of applicants with lower grades who used to apply for technician education, and development by universities of programmes similar to the programmes offered in technician education.

Table (16)
Percentage of students in technical/ technician education to total TVET participants

Years	**Total TVET Students**	technician education	Percentage of students in technician education %
2000/2001	**65832**	27744	42.1
2001/2002	**70536**	29177	41.4
2002/2003	**66142**	26967	40.7
2003/2004	**58096**	23920	41.2
2004/2005	**54379**	24790	45.6
2005/2006	**56871**	25743	45.3

3.3 participation rates in TVET by agency as a percentage of the relevant JSCED level

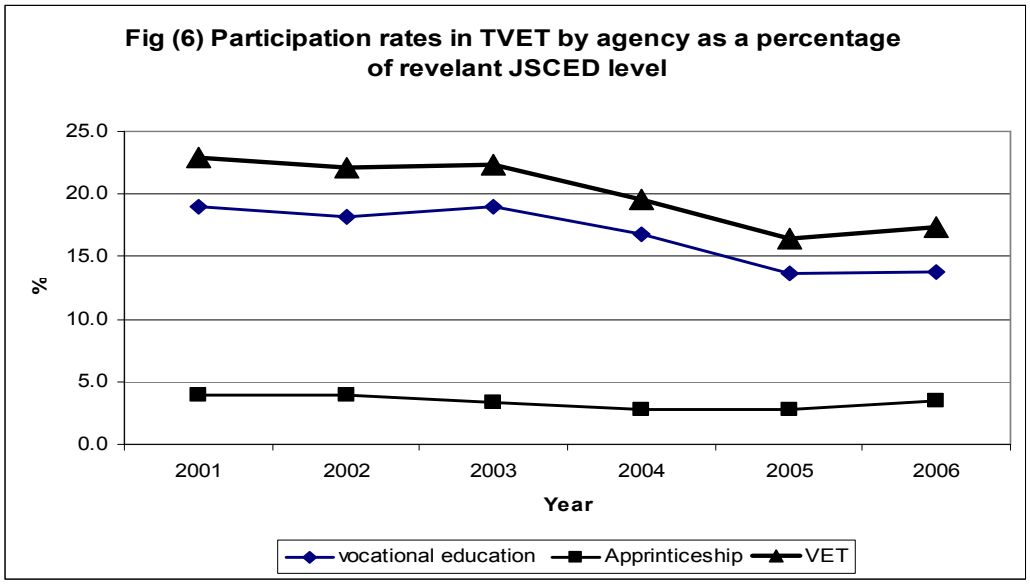
a- Participation rate of secondary vocational education

The participation rate of secondary vocational education dropped from 19.0% as a percentage of all students in the relevant JSCED level in 2001 to 16.7% in 2004. This is attributed to shifting commercial education from secondary vocational stream to general education stream in 2004.

After this reclassification, vocational education regained its overall stability overall and has now settled at around 13.8% of all students in JSCED level (3).

b. Participation rate of apprenticeship / applied secondary education

After a respectable increase from 2001 to 2002 the number of apprentices dropped unexplainably in 2003 until it reached a low point in 2004 with only 4687 apprentices. The following year there was already a noticeable increase in the number of apprentices and in 2006 there was a sudden large increase in the number of apprentices. This was linked to an increase in the number of centers linked to the programme (VTC established 12 small vocational training centers between 2004-2006). From fig. 6 the participation rate can be said to be somewhat stable around the level of 4%.



Source: Main TVET providers

c. Participation rate of VET as a percentage of secondary education

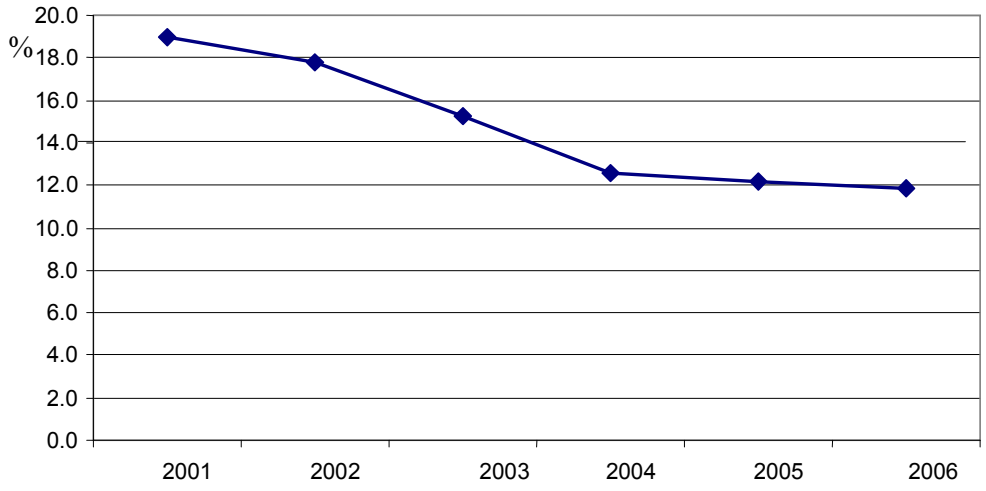
The participation rate of VET as a percentage of secondary education is decreasing from 23.0% to 19.5% in 2004, due to shifting commercial education from secondary vocational to general secondary education in 2004. **The participation rate in VET is very low compared to 78.6% in Australia, 66.3% in Netherlands, 66.3% in United Kingdom, 63.3% in Germany, 56.7 in France, 25.8% in Ireland and 16% in USA.**

d. Participation rate of technician education

The participation rate of technician education as a percentage of all higher education students (JSCED level 5) is decreasing from 19.0% in 2001 to 11.8% in 2006. The decrease is attributed to:

■ Technician education programmes are not attractive enough due to nature of job opportunities for graduates
■ increase of the annual intake in university education in programmes in direct competition with programmes in technician education.
The latter explanation most likely being the most important part of the explanation.

Fig(7) Participation rates of technician education JESCED level 4 as a percentage of all participations in education JESCED levels 4 & 5



Source: Main TVET providers

3.4 Participation Rates of Apprentices/applied secondary education to total TVET and VET Participants

a. Participation Rate of Apprenticeship/ Applied secondary education of all TVET

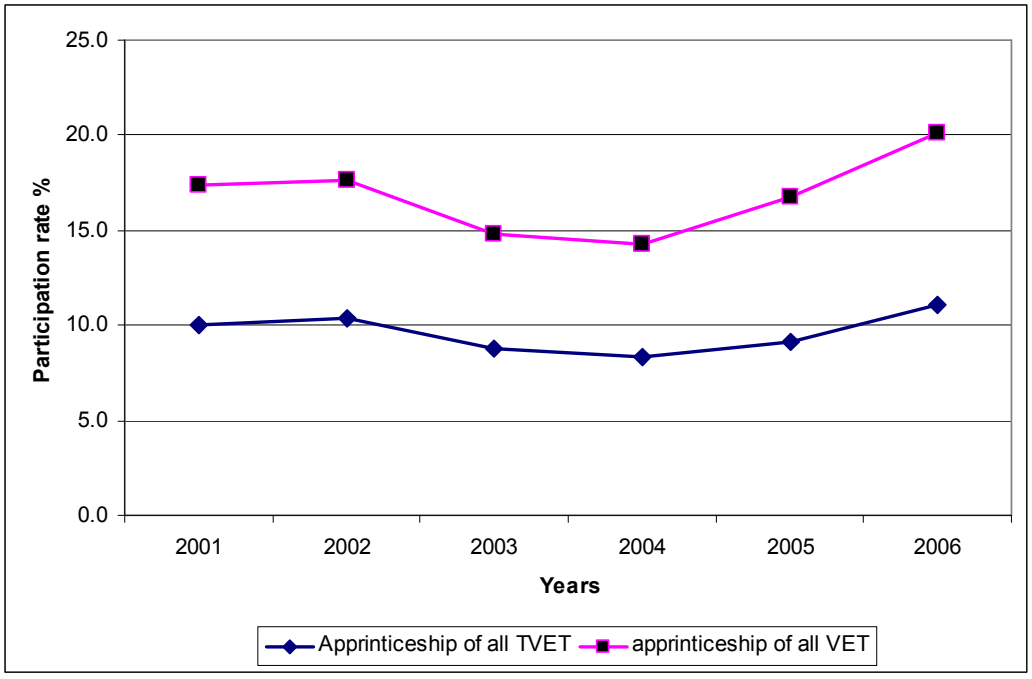
The participation rate of apprenticeship/ applied secondary education as a percentage all TVET participants increased 3 points in 2006. This increase could be attributed to structural and economic reasons:
■ The decreasing number of students in vocational education and technician education
■ Increasing the annual intake in 2006 through offers of new programmes and exemption of training fees.

b. Participation Rate of Apprenticeship / Applied secondary education of all VET

The participation rate of apprenticeship/ applied secondary education as a percentage of VET participants increased from 17.4% in 2001 to 20.1% in 2006. This is attributed to:

- The decreasing number of students in vocational education due to shifting of commercial education from secondary vocational to general secondary education stream
- Increasing the annual intake in 2006 due to expansion , offering new programmes, and exempting trainees from paying training fees.

Fig (8): Participation Rate of Apprenticeship / Applied secondary education of all VET and of all TVET



Source: Main TVET providers

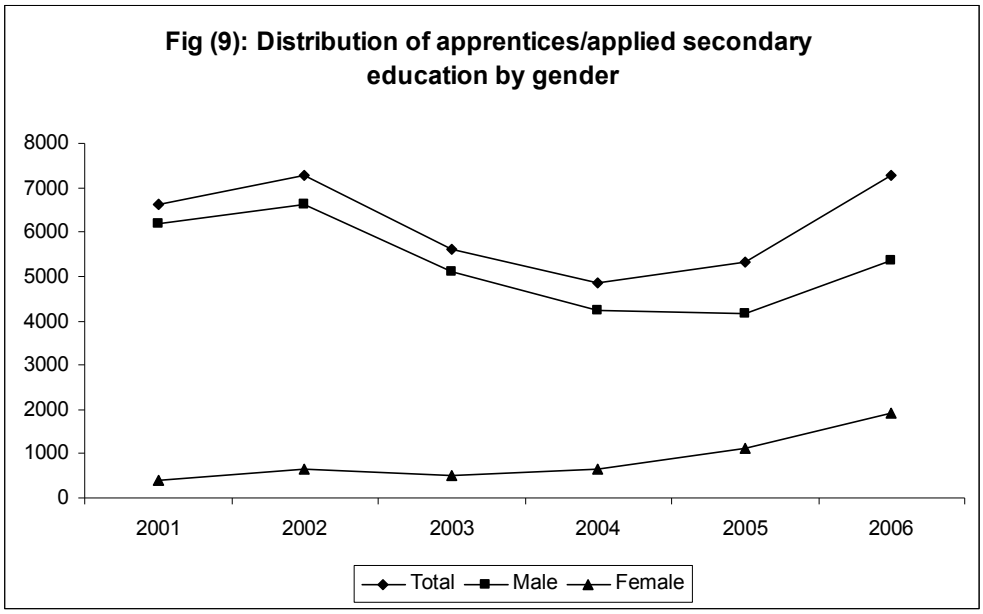
Apprenticeship is popular, but limited in terms of available offers. Where more offers are made and in more and more varied fields, it is thus likely that the relative share of apprenticeship out of all TVET participants would increase even further.

3.5 Distribution of apprentices/applied secondary education by gender and specialization (number or percentage) to total participants

a. Distribution by gender

The percentage of female participants in apprenticeship/ applied secondary education is increasing from 6.3% in 2001 to 27.9% in 2006.

The increasing number of female students is attributed to the expansion of female vocational training centers and the offer of new programmes attractive to female students such as information technology, personal services and secretarial work. Higher female participation rates in apprenticeship programmes can thus be expected from a greater variety of programmes, especially if such new programmes are receptive to the concerns of women.



Source: Main TVET providers

b. distribution by specialization

Table (17) shows the distribution of apprentices / applied secondary education by gender and specialization

Table (17)

Distribution of apprenticeship/ applied secondary education by Gender and specialization

specialization	2001			2002			2003			2004			2005			2006		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Electricity	1330	0	**1330**	1241	0	**1241**	1025	0	**1025**	891	0	**891**	899	0	**899**	976	0	**976**
Electronic	157	0	**157**	187	0	**187**	127	0	**127**	76	0	**76**	61	4	**65**	239	10	**249**
General Mechanic	750	9	**759**	785	0	**785**	694	2	**696**	675	0	**675**	538	28	**566**	682	26	**708**
Automotive	921	0	**921**	1185	0	**1185**	893	0	**893**	706	0	**706**	561	0	**561**	572	0	**572**
Air conditioning	608	0	**608**	629	0	**629**	475	0	**475**	408	0	**408**	415	0	**415**	458	0	**458**
Constructions	43	0	**43**	316	0	**316**	21	0	**21**	36	0	**36**	15	0	**15**	8	0	**8**
Carpentry	329	0	**329**	415	0	**415**	302	0	**302**	244	0	**244**	212	5	**217**	249	0	**249**
Printing industry	65	0	**65**	112	0	**112**	127	0	**127**	93	0	**93**	52	0	**52**	56	0	**56**
Textile industry	16	89	**105**	212	75	**287**	101	133	**234**	32	115	**147**	96	205	**301**	465	56	**521**
Detergent industry	10	0	**10**	8	0	**8**	0	0	**0**	0	0	**0**	0	0	**0**	3	8	**11**
Petroleum industry	0	0	**0**	11	0	**11**	12	0	**12**	19	0	**19**	0	0	**0**	0	0	**0**
Environmental Processing	16	0	**16**	25	0	**25**	11	0	**11**	21	0	**21**	8	0	**8**	16	0	**16**
Food industry	0	0	**0**	0	0	**0**	0	0	**0**	23	0	**23**	0	0	**0**	13	18	**31**
Handy Craft industry	0	0	**0**	0	0	**0**	0	0	**0**	2	0	**2**	0	0	**0**	0	28	**28**
Tourism	983	0	**983**	646	0	**646**	447	8	**455**	328	0	**328**	345	2	**347**	365	0	**365**
Personal Services	161	153	**314**	177	201	**378**	170	225	**395**	204	214	**418**	278	426	**704**	309	680	**989**
Sales and Trade	0	0	**0**	0	0	**0**	0	30	**30**	0	0	**0**	0	0	**0**	34	0	**34**
In formation Technology	0	0	**0**	0	0	**0**	128	0	**128**	162	120	**282**	341	326	**667**	623	821	**1444**
Mining	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	26	0	**26**	0	0	**0**
Secretary	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	139	**139**	0	254	**254**
Others	187	144	**331**	830	230	**1060**	563	109	**672**	306	192	**498**	322	0	**322**	282	34	**316**
Grand Total	**5576**	**395**	**5971**	**6640**	**645**	**7285**	**5096**	**507**	**5603**	**4226**	**641**	**4867**	**4169**	**1135**	**5304**	**5350**	**1935**	**7285**

Source: VTC

From table (17), information technology is virtually exploding onto the list in 2005 and also the area of personal services has had a large increase. On the other hand tourism has more than halved since 2001 while no women were participating, and other areas such as electricity, automotive, air conditioning and carpentry have declined substantially. Areas that have become more popular (apart from information technology and personal services) are electronic, textile industry and secretarial work. The other areas are either stable or too small to be of much interest. The fields which are of particular interest for women and men are as follows:

* Women: Information technology, personal services and secretarial work
* Men have a much wider range of interests, but these are changing over time. In 2001 tourism was the second most popular area for men. In 2006 tourism is number 7.

■ Female participants

There are very few female participants in the industrial sector occupations. In the textile industry the number of female participants is higher than male participants up to 2005, but in 2006 the number of female participants decreased to 56 out of 512 (approximately 11%). The textile industry changes drastically from year to year. The reasons for this change should be further studied and analyzed.

While tourism is beginning to become a leading economic sector in Jordan, women are not participating in tourism training schemes in the VTC.

In personal services and information technology the number of female participants is steadily increasing. This is attributed to better job opportunities for female graduates.

■ Male participants

The highest participation rates of male students are in electricity with 976 apprentices in 2006, then general mechanic with 682, information technology 623, automotive 572, textile industry 465, air conditioning 458, tourism 365, personal services 509, carpentry 249 and finally electronics 239.

3.6 Percentage of vocational education students to total TVET and VET participants

Fig (10) shows the percentage of vocational secondary education to total TVET and VET participants

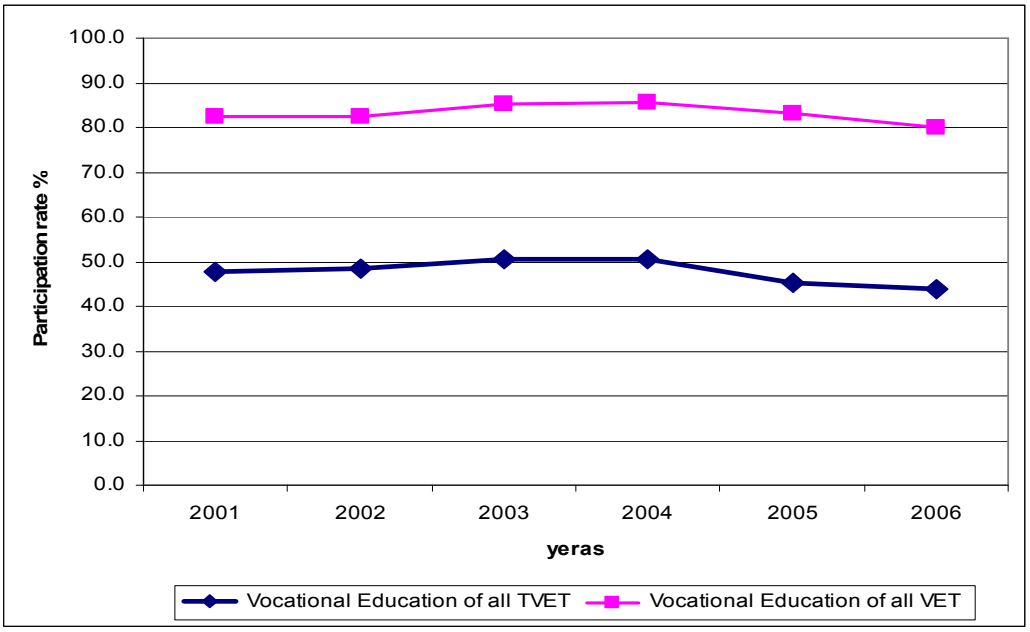
a. Percentage of vocational education of all TVET

The participation rate of vocational education as a percentage of all TVET participants decreased in 2004 due to shifting commercial education from secondary vocational to secondary general education stream.

B. Percentage of vocational education of all VET

The percentage of vocational education students of all VET participants is decreasing from 82.6% in 2001 to 79.8% in 2006. The decreasing number of vocational education students is attributed to the shift of commercial education from secondary vocational to secondary general education stream, the lack of attractiveness to curricula which are supply driven, and lack of relevance and responsiveness to labour market requirements.

Fig (10): Percentage of vocational education of all VET and of all TVET



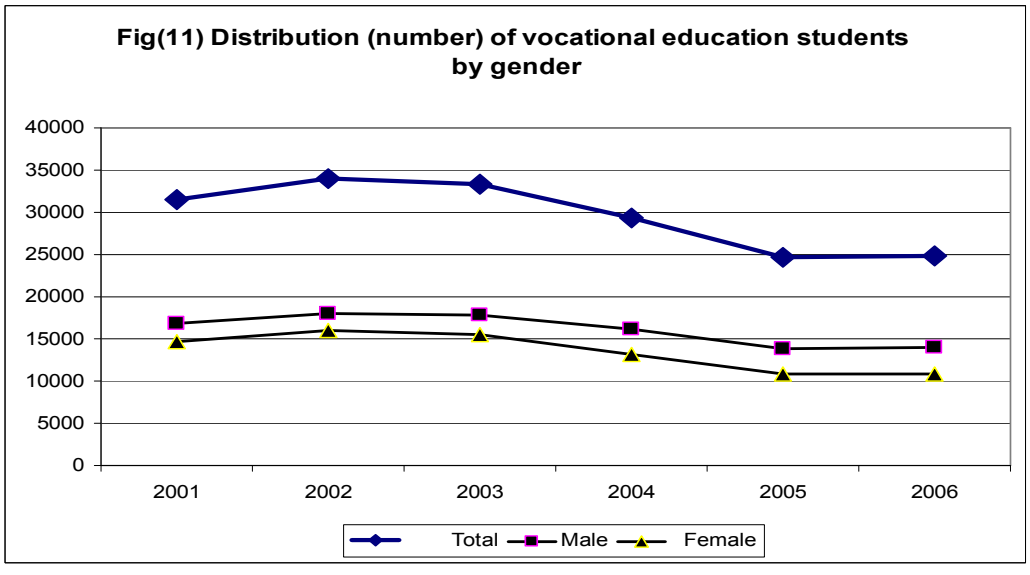
Source: Main TVET providers

3.7 Distribution (number) of vocational education students by gender and type of education

a. Distribution of vocational education students by gender

The percentage of female students in vocational education is decreasing from 46.5% in 2001 to 43.9% in 2006. The reasons for the decrease are probably linked to availability of study places and possibly to less employment perspectives.

Fig(11) Distribution (number) of vocational education students by gender



Source: Main TVET providers

b. Distribution of students by type of vocational education

Table (18) shows the distribution of vocational education students (number and percentages) by type of education.

Table (18): Distribution of vocational education students (number and percentages) by type of education

year	Total Voc.Edu	Commercial		Agricultural		Industrial		Nursing		Hotel		home Economic	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2001	31471	10037	31.89	1298	04.12	8486	26.96	2414	7.67	1741	5.53	7410	23.54
2002	34074	10742	31.52	1665	4.88	9680	28.41	2488	7.30	1827	5.36	8467	24.84
2003	33372	10469	31.87	1319	3.95	9171	27.48	2536	7.59	1688	5.05	8189	24.53
2004	29309	5040	17.19	1424	4.85	9789	33.39	2614	8.91	1874	6.39	8568	29.23
2005	24620	0	0.0	1523	6.18	9917	40.28	2689	10.92	1769	7.18	8722	35.42
2006	24850	0	0.0	1458	5.86	9910	39.87	3042	12.24	1830	7.36	8608	34.63

Source : Ministry of Education

From Table (18), the highest participation of vocational education up to 2002 was in commercial education, since 2004 commercial education was shifted from vocational to general education stream. As a result, the highest participation of vocational education in 2006 is industrial education as it is 39.9% followed by home economics 34.6%, then nursing 12.2%, hotel 7.4%, then agriculture 5.9%. The lowest percentage is in agriculture and this could be due to lack of job opportunities for graduates.

C. Distribution of vocational education students by gender and type of education

Table (19) shows the distribution of vocational education students (numbers and percentages) by gender and type of education.

The highest percentage of female students is in home economics (more than 98%) followed by nursing (more than 64%). This could be attributed to more employment opportunities in the labour market and society in general considers these specializations as the most suitable for females. The lowest percentage of female students is in hotel training (less than 1%), that could be explained by socio-cultural behaviors. The same kind of factors may explain the very low percentage of female students in industrial education which despite a slight increase from 0.1% to 1.1%, may still be considered as very low. The percentage of female students in agriculture (11.5-14%) is comparatively low. That could be due to lack of job opportunities for graduates.

Table (19): Distribution of vocational education students (numbers and percentages) by gender and type of education.

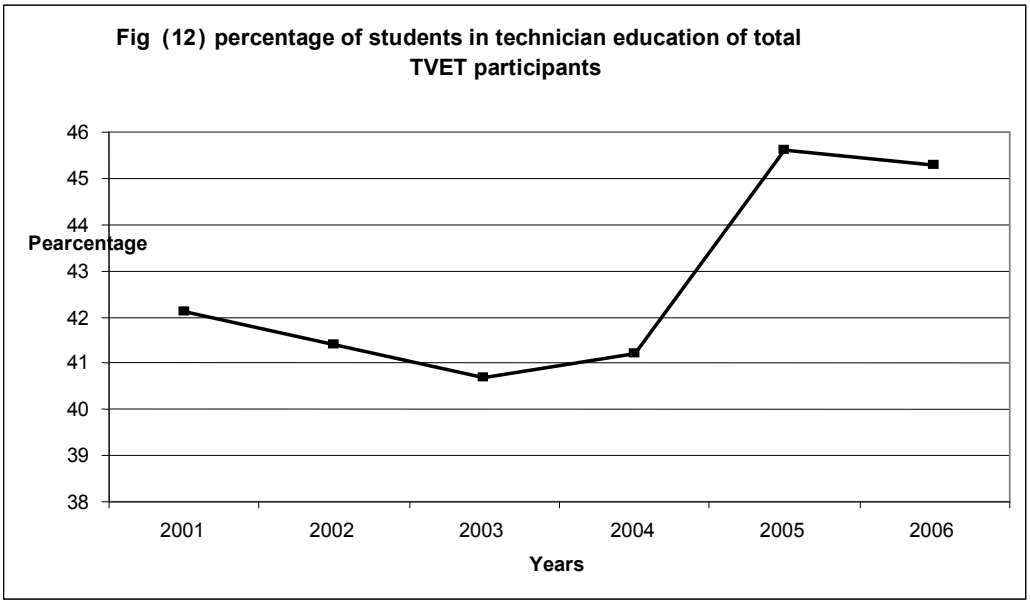
		2001	2002	2003	2004	2005	2006
Commercial							
Total		10037	10742	10469	5040	0	0
Male		4658	4062	5107	2542	0	0
Female	N	5379	6680	5362	2498	0	0
	%	53.59	62.18	51.21	49.56	0	0
Agricultural							
Total		1298	1665	1319	1424	1523	1458
Male		1112	1471	1113	1231	1333	1289
Female	N	186	194	206	193	190	169
	%	14.32	11.65	15.61	13.55	12.47	11.59
Industrial							
Total		8486	9680	9171	9789	9917	9910
Male		8476	9649	9119	9684	9827	9794
Female	N	10	31	52	105	90	116
	%	00.11	00.32	00.56	01.07	00.90	01.17
Nursing							
Total		2414	2488	2536	2614	2689	3042
Male		720	725	758	799	864	935
Female	N	1694	1763	1778	1815	1825	2107
	%	70.17	70.86	70.11	69.43	67.86	64.26
Hotel							
Total		1741	1827	1688	1874	1769	1830
Male		1741	1827	1688	1874	1769	1830
Female	N	0	0	0	0	0	0
	%	0	0	0	0	0	0
Home Economics							
Total		7410	8467	8189	8568	8722	8608
Male		23	27	26	39	49	96
Female	N	7387	8440	8163	8529	8613	8512
	%	99.68	99.68	99.68	99.54	98.75	98.88

Source: Ministry of Education

3.8 Percentage of students in technician education of total TVET participants

Fig (12) shows the percentage of students in technician education of total TVET participants.

The participation of technician education as a percentage of all TVET decreased 0.7 percentage points in 2003, but in 2004 it increased one percentage point and became stable in 2005 and 2006.

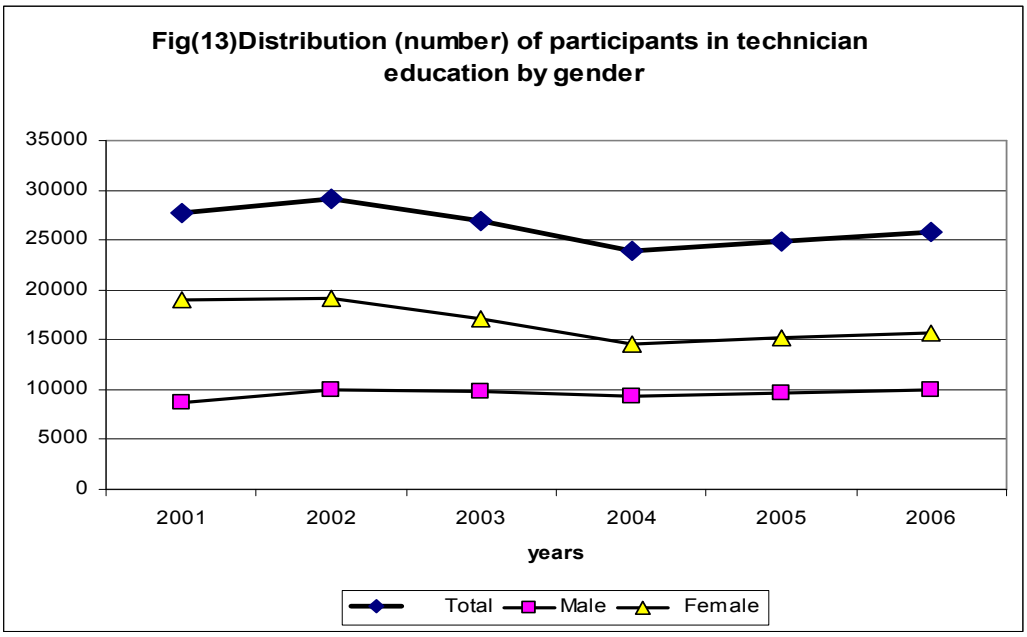


Source: Main TVET providers

3.9 Distribution (number and percentage) of participants in technician education by gender, age and specialization

a. Distribution of technician education by gender

Fig. (13) shows the distribution of participants in technician education by gender



Source: BAU

The number of female students as a percentage of participants in technician education is decreasing from 68.3% in 2001 to 61.1% in 2006. This may be due to the decrease of students in language and information management programmes in which most participants were female students.

b. Distribution of technician education (numbers and percentages) by programmes

Table (20) shows the distribution of technician education students by programme.

Table (20): Distribution of technician education students (numbers and percentages) by programme

Programme	2001		2002		2003		2004		2005		2006	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Language	1504	5.4	540	1.9	81	0.3	40	0.2	405	1.6	101	0.4
Education	4639	16.7	5355	18.4	4511	16.7	4868	20.4	5015	20.2	5474	21.3
Engineering	2822	10.2	2777	9.5	2627	9.7	2529	10.6	2563	10.3	2623	10.2
Agriculture	250	0.9	270	0.9	236	0.7	122	0.5	92	0.4	115	0.5
Para-medical	2777	10.0	3193	10.9	3961	14.7	3877	16.2	4354	17.6	5448	21.2
Administrative and finance	8946	32.2	9458	32.4	8554	31.7	8168	34.1	8479	34.2	8020	31.2
Information management and libraries	2768	10.0	3454	11.8	3190	11.8	2320	9.7	1636	6.6	1310	5.1
Hotel management	1005	3.6	1218	4.2	914	3.4	521	2.2	428	1.8	403	1.6
Applied fine Arts	1378	4.9	1394	4.8	1412	5.2	1412	5.9	1681	6.8	2001	7.8
Applied sciences	46	0.2	97	0.3	83	0.3	30	0.1	0	0	0	0
Shari'a Sc.& Islamic Civilization	840	3.0	252	0.9	1	0	51	0.2	137	0.6	132	0.5
Social Work	769	2.8	1169	4.0	1397	5.2	0	0	0	0	0	0
Grand Total	27744	100	29177	100	26967	100	23920	100	24790	100	25743	100

Source: 1- The Registration and Acceptance Unit at BAU
2. www.mohe.gov.jo

From 2001 to 2006 para-medical participation has increased dramatically. So has applied arts and to a lesser extent education and engineering. On the other hand information management has declined dramatically. And some programmes have completely or almost disappeared. Most prominently is social work and applied sciences that no longer seem to exist and also hotel management, language and Shari'a Sc. & Islamic Civilization have experienced dramatic declines.

Almost one third of technician education students are in administrative and financial programmes, but this field of study is decreasing in importance, having dropped to less than 31.2% in the last year. **The percentage of paramedical programmes is increasing from 10.0% in 2001 to 21.2% in 2006. This is due to better job opportunities in the labour market.** The percentage of students in education programmes of around 21.3% in 2006 could not be explained as the law of education states that all teachers should hold university degree. The reason is that there are only two classes offered, one in IT class while the other is English teacher. The first one was closed since 2005, while the

other was transferred to English language instead of English Teacher. The reason is that it can be used to find jobs in private sector easier. Another main reason is probably that graduates can find job opportunities in other Arab countries. Around 10.2% of the participants joined the engineering programmes. The percentage of information management programmes was almost stable from the period of 2001-2003, and then started to decrease from 11.8% in 2003 to 5.1% in 2006. This drop could be due to lack of job opportunities for the graduates, and that could be attributed to the trend that jobs in information management are being held by university degree holders instead of technician education graduates.

Conclusions

■ **Participation**

- Participation rates in TVET (JSCED levels 3+4) as a percentage of all participants of education / training (JSCED levels 3+4+5) decreased from 21.1% in 2001 to 14.3% in 2006, while surprisingly apprenticeship participation is increasing for both male and females. This decrease in TVET overall is attributed to:
    - Increasing the enrollment capacity of general secondary education and university institutions without increasing the enrolment capacity of TVET institutions.
    - The shift of commercial education from secondary vocational stream to general education stream in 2004
    - Increasing the annual intake of university education which resulted in decreasing the annual intake of technician education
- The percentage of VET participants (17.3%) is considerably low compared to 78.6% in Australia, 66.3% in Netherlands, 66.9% in United Kingdom, 63.3% in Germany, 56.7% in France, 25.8% in Ireland, and 16% in USA.
- Participation rate of secondary vocational education as a percentage of VET participants (79.8% in 2006) is high. That may be interpreted as attraction of VE participants to receiving school based training which may offer them the prospect of proceeding to higher education.

■ The rate of apprenticeship participants increased due to expansion, offer of new attractive programmes and exemption from training fees.

■ **Gender issues**

- Female participation rate in Apprenticeship / applied secondary education increased from 6.3% in 2001 to 27.9% in 2006.
- Female students comprise 43.9% of vocational education enrollment. More than 60% of technician education students are female.
- In 2006, the latest year for which data are available, the most popular fields of study for males and females were as follows:
    - Apprenticeship
        - Male students: Electricity, general mechanic, information technology and automotive
        - Female students: Information technology, personal services and secretary
    - Vocational education:
        - Male students: Industrial education
        - Female students: Home economics and nursing
    - Technician education: administrative and finance, education, paramedical and engineering.

As an overall conclusion one may say that due to the decrease in participation rates in TVET, the objective of "equipping Jordanians for the world of work" has not been met during the period 2001-2006.

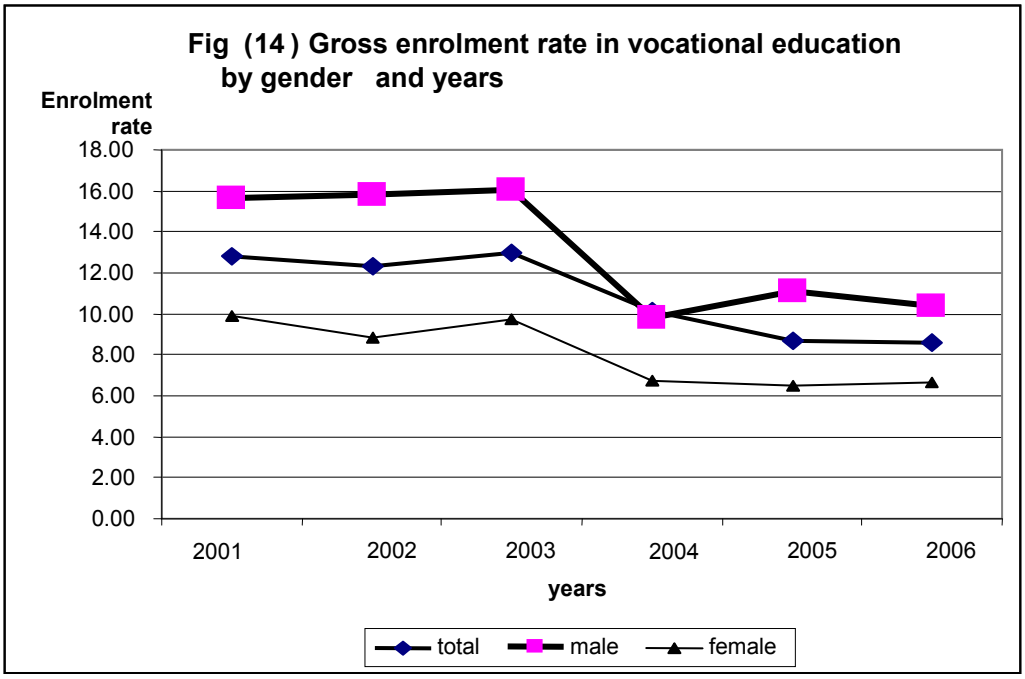
4- Access to TVET

The aim of this chapter is to measure the achievement of the policy major operational objective ' Achieving equitable outcomes'.
It addresses the main current developments regarding the gross enrolment rates in TVET by agency and gender.

4.1 Gross enrolment rate in TVET by gender

a- Gross enrolment rate in vocational education by gender and years

Fig (14) shows the gross enrolment rate (all students regardless of age as a percentage of the relevant age group) in vocational education by gender for the period 2001-2006, The total rate dropped from 12.8% in 2001 to 10.1% in 2004. This drop may be attributed to the decrease in enrolment in vocational education due to shifting commercial education (more than 5000 students) from vocational to general education and by the natural growth of the population age group. Female gross enrolment rate is lower than that of males. The low gross female enrolment rate could be attributed to socio- cultural reasons and to lack of study places in some sectors.



Source: Ministry of Education
*Relevant population aged 17-19 years

Table (21) shows enrolments in vocational education by gender for the years (2001-2006)

Table (21)

Enrolment in Vocational Education by gender for years (2001-2006)

School Year	Enrollment rate	Sex	No of population*	No of Students	Enrolment rate
2001	**Gross**	Total	223889	41753	12.83
		Male	112897	26240	15.62
		Female	110992	15513	9.85
	Net	Total	223889	31004	9.53
		Male	112897	20037	11.93
		Female	110992	10967	6.97
2002	**Gross**	Total	229448	42481	12.35
		Male	114431	27268	15.85
		Female	115017	15213	8.84
	Net	Total	229448	32688	9.50
		Male	114431	21549	12.53
		Female	115017	11139	6.47
2003	**Gross**	Total	223311	44297	12.96
		Male	114623	27606	16.05
		Female	108688	16691	9.70
	Net	Total	223311	34072	9.97
		Male	114623	21742	12.32
		Female	108688	12330	7.45
2004	**Gross**	Total	229037	35502	10.15
		Male	117564	17363	9.84
		Female	111473	11181	6.76
	Net	Total	229037	28131	8.04
		Male	117564	13977	7.73
		Female	111473	8220	4.86
2005	**Gross**	Total	479431	30949	8.65
		Male	247126	20007	11.07
		Female	232305	10942	6.47
	Net	Total	479431	23200	6.49
		Male	247126	12839	6.95
		Female	232305	10361	5.99
2006	**Gross**	Total	490613	31327	8.56
		Male	252865	19623	10.38
		Female	237748	11704	6.61
	Net	Total	490613	24850	6.79
		Male	252865	13944	7.38
		Female	237748	10906	6.16

*Population ages 17-19 years.

b-Gross enrolment rate in apprenticeship by gender and years

Fig (15) shows the gross enrolment rate in apprenticeship by gender for the period 2001-2006.The total rate dropped from 0.9% in 2001 to 0.8%in 2003, then to 0.7% in 2004 and 2005. This drop may be explained by the decrease in number of apprentices and to the natural growth of the population age group. Female gross enrolment rate increased from 0.1% in 2001 to 0.5% in 2006 due to the increase in the number of female apprentices from 415 in 2001 to 1754 in 2006 as a result of offering attractive and targeted programmes such as personal services, information technology and secretarial work.

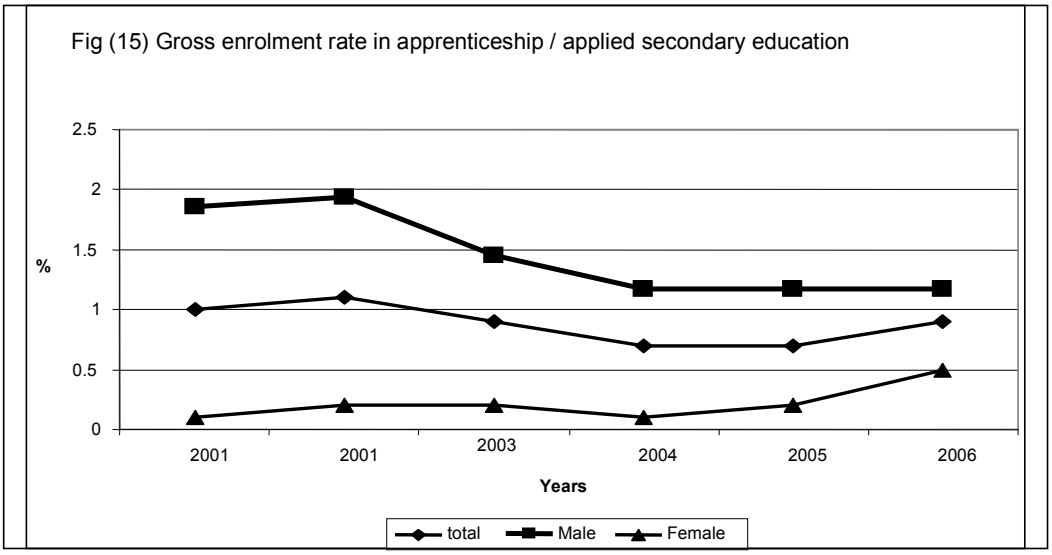
Table (22) shows enrolment in apprenticeship/applied secondary education by gender for the years (2001-2006).

Table (22)

Enrolment in Apprenticeship/Applied Secondary Education, by gender for the years (2001-2006)

Year	Enrollment	Sex	No of population*	No of Students	Enrolment rate
2001	**Gross &net**	Total	649263	6617	1.0
		Male	334361	6202	1.9
		Female	314902	415	0.1
2002	**Gross &net**	Total	664,921	7285	1.1
		Male	342,430	6640	1.9
		Female	322,491	645	0.2
2003	**Gross &net**	Total	682,132	5803	0.9
		Male	351,296	5096	1.5
		Female	330,836	507	0.2
2004	**Gross &net**	Total	697874	4867	0.7
		Male	359798	4226	1.2
		Female	338076	461	0.1
2005	**Gross &net**	Total	713,674	4969	0.7
		Male	367865	4241	1.2
		Female	345809	728	0.2
2006	**Gross &net**	Total	730408	6278	0.9
		Male	376410	4524	1.2
		Female	353998	1754	0.5

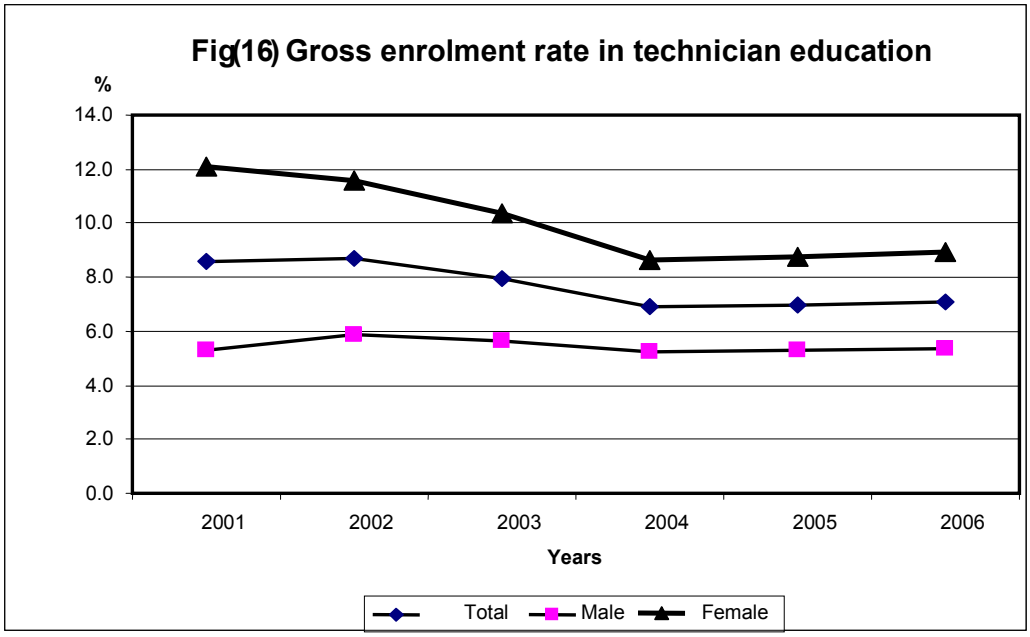
*Population age 17-22 years



Source: VTC
*Relevant population aged 17-22 years

C-Gross enrolment rate in technician education by gender and years

Fig (16) shows the gross enrolment rate in technician education by gender for the period 2001-2006. The rate decreased from 8.3% in 2001 to 7.2% in 2006.
This drop may be due to the decrease in number of students and to the natural growth of the population age group. It is noticeable that there is a dramatic drop (3.2%)in female enrolment rate. No convenient explanation may be given for this drop. Further studies are needed to explore the subject. It may well be that the increase in intake at the Jordanian universities were in particular attractive to women.



* Relevant population aged 19-21 years
Source: BAU

Enrolment (total number) in TVET by agency and sex. Tables 21 & 22 show gross enrolments by gender in the two types of VET : apprenticeship/ applied secondary education , and vocational education.

4.2 Net enrolment rates in TVET by gender

Information is not available.

4.3 Gross enrolment rates in TVET by region and gender

Information is not available.

4.4 Net enrolment rates in TVET by region and gender

Information is not available.

Conclusions

- Gross enrolment rates are decreasing in TVET providing institutions. Thus one may consider that the objective of "achieving equitable outcomes in TVET" has not been met during the period 2002-2006. Nevertheless the lack of information regarding net enrolment rates in TVET, gross and net enrolment rates by region and gender being not available, it is highly recommended that TVET providers improve their data collection which would lead to a more effective measurement of the achievements of access to TVET.
- Gross enrolment rate in apprenticeship (around 1%) is very low compared to each of vocational and technician education.
- Female gross enrolment rates are lower than male rates in vocational education and apprenticeship, The gender gap is (0,8%) in apprenticeship, and 2.8% in vocational education, while female gross enrolment rate in technician education is higher than male rates by more than 3.5%.

5. Performance of the TVET system

The aim of this chapter is to measure the achievement of the policy major operational objective 'Performance outcomes of the TVET system'.
It addresses the main current developments regarding the completion, dropout and graduation rates by agency, programme and gender.

5.1 Completion rates in TVET by programme and gender

a- Completion rates in vocational education by type and gender

Table (23) shows the completion rates in vocational education by type and gender. The total completion rate in vocational education decreased from 86.1% in 2001 to 81.2% in 2006. The lowest completion rate is in 2005. The decrease in completion rate in 2005 is probaboly attributed to applying new curricula. The highest total completion rate is in nursing followed by home economics and industrial education (the most attractive types), the lowest total completion rate in 2006 is in hotel education. The difference in completion rates by gender is not stable as in some years the female completion rates are higher while in other years the male completion rates are higher. **The high completion rate, in general, is due to low dropouts and low repetition rates.**

Table (23): Completion rates in vocational education by type and gender

Type	Gender	2002	2002	2003	2004	2005	2006
Commercial	**Total**	**87.3**	**85.1**	**93**	**86.6**	**0.0**	**0.0**
	Male	84.6	89.0	83.8	86.5	0.0	0.0
	Female	89.6	81.4	102.9	86.6	0.0	0.0
Agriculture	**Total**	**80**	**80.4**	**81.9**	**85.2**	**85**	**84.2**
	Male	77.8	79.6	82.7	83.3%	85.35	83.6
	Female	94.2	85.7	77.7	96.4%	79.98	89.9
Industrial	**Total**	**84.3**	**80.1**	**80.2**	**75.4**	**81.4**	**86.7**
	Male	84.3	80.1	80.2	75.4	82.7	86.9
	Female	100.0	0.0	93.8	86.9	69.1	70.6
Nursing	**Total**	**96.4**	**95.6**	**99.7**	**98.0**	**88.0**	**95.0**
	Male	99.1	96.8	97.3	100.3	85.4	99.0
	Female	95.2	95.1	100.7	97.0	89.3	93.3
Hotel Education	**Total**	**84.5**	**89.7**	**82.7**	**88.0**	**94.9**	**79.6**
	Male	84.5	89.7	82.7	88.0	91.0	79.4
	Female	0.0	0.0	0.0	0.0	0.0	100
Home Economics	**Total**	**86.6**	**86. 7**	**89.0**	**83.0**	**74.4**	**90.1**
	Male	88.9	93.3	87.5	73.7	70.87	62.9
	Female	86.6	86.6	89.0	83.6	74.67	90.5
TOTAL	**Total**	**86.1**	**85.0**	**87.8**	**81.6**	**76.1**	**81.2**
	Male	**83.8**	**84.5**	**82.4**	**78.3**	**76.4**	**97.7**
	Female	**88.8**	**85.7**	**94.8**	**85.7**	**75.7**	**83.9**

Source: Ministry of Education

b- Completion rates in apprenticeship

Data and information regarding completion rates in apprenticeship (VTC) by type and gender is not available.

c- Completion rates in technician education

Table (24) shows the completion rates in technician education by type and gender. The total completion rate in technician education is between 92-94%. The highest total completion rate is in Educational programme followed by para - medical programme and information management and libraries programme , the lowest total completion rate is in administrative and finance programme. The completion rates by gender is not available

Table (24): Completion rates in technician education by programme and gender

	2002			2003			2004			2005			2006		
programme	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Languages	--	--	93.7	--	--	95.7	--	--	92.0	--	--	90.1	--	--	89.0
Educational	--	--	96.7	--	--	96.3	--	--	96.3	--	--	96.2	--	--	96.3
Engineering	--	--	87.7	--	--	89.0	--	--	94.0	--	--	90.3	--	--	90.7
Agricultural	--	--	97.0	--	--	96.0	--	--	96.0	--	--	94.9	--	--	90.0
Para -Medical	--	--	95.9	--	--	95.7	--	--	96.8	--	--	95.8	--	--	96.9
Administrative & Finance	--	--	54.0	--	--	87.1	--	--	91.3	--	--	90.0	--	--	88.7
Info. Manag & . Libraries	--	--	94.4	--	--	96.4	--	--	95.7	--	--	95.7	--	--	94.7
Hotel Management	--	--	91.6	--	--	93.8	--	--	92.8	--	--	96.6	--	--	94.0
Applied Fine Arts	--	--	90.0	--	--	94.4	--	--	94.7	--	--	90.6	--	--	95.3
Applied Sciences	--	--	90.2	--	--	87.7	--	--	95.2	--	--	93.0	--	--	91.6
Shari'a Sc &.Islamic Civilization	--	--	90.9	--	--	88.8	--	--	92.8	--	--	94.0	--	--	88.7
Grand total	--	--	91.9	--	--	92.1	--	--	93.8	--	--	92.4	--	--	92.6

Source: BAU

5.2 Dropout rates in TVET by gender and programme

a-dropout rates in vocational education by type and gender

Table (25) shows the dropout rates in vocational education by type and gender, the rates are stable (1-2%) through the period 2001-2006. The rates are comparatively low and acceptable.

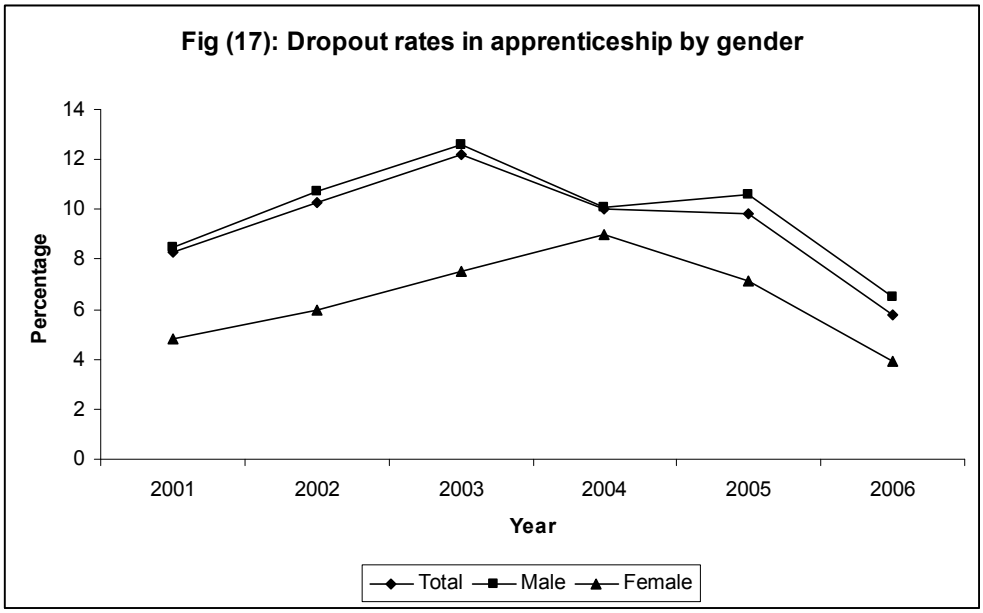
Table (25): dropout rates in vocational education by type and gender

Type of education	Gender	Rate (%)					
		2001	2002	2003	2004	2005	2006
Commercial	Total	**2**	**1**	**1**	**2**	1	0
	Male	**1**	**1**	**1**	**1**	1	0
	Female	**2**	**2**	**1**	**2**	1	0
Agricultural	Total	**0**	**2**	**2**	**0**	2	2
	Male	**0**	**3**	**2**	**0**	2	2
	Female	**1**	**1**	**1**	**1**	1	1
Industrial	Total	**1**	**2**	**3**	**1**	3	3
	Male	**1**	**2**	**3**	**1**	3	3
	Female	**0**	**0**	**4**	**0**	4	4
Nursing	Total	**0**	**1**	**0**	**0**	0	0
	Male	**0**	**0**	**0**	**0**	0	0
	Female	**0**	**1**	**0**	**0**	0	0
Hotel	Total	**1**	**1**	**1**	**1**	1	1
	Male	**1**	**1**	**1**	**1**	1	1
	Female	**0**	**0**	**0**	**0**	0	0
Home Economics	Total	**2**	**2**	**1**	**2**	1	1
	Male	**1**	**0**	**1**	**1**	1	1
	Female	**2**	**2**	**1**	**2**	1	1
Grand total	Total	**2**	**2**	**1**	**2**	1	1
	Male	**2**	**2**	**2**	**2**	2	2
	Female	**1**	**2**	**1**	**1**	1	1

Source: Ministry of Education

b-Dropout rates in apprenticeship by gender and programme

Fig (17) shows the dropout rates in apprenticeship by gender for the period 2001-2006. The dropout rate by specialization (programme) in apprenticeship is not available**.** The total dropout rates increased up to 12.2% in 2003, the reasons could be attributed to lack of effective counseling services, lack of effective follow-up and the relations within the work place. The dropout rates started to decrease in 2004 to reach 10.6% in 2005 and 5.8% in 2006**.** This decrease represents improvement in training delivery. **The female dropout rates are less than the male rates.**



Source: VTC

C-Dropout rates in technician education by gender and programme

Information is not available

5.3 Percentage of graduates by gender and programme

a- percentage of graduates in vocational education by type and gender

Table (26) shows the percentage of graduates in vocational education by type and gender. It is noticeable that **the total percentage of graduates in vocational education is decreasing** (nursing is an exception) **while percentage of graduates rates of females is higher than males.** The graduation rate is an indication of the internal efficiency of vocational education system. Low graduation rates represent educational waste. The reasons for this dramatic drop should be further studied, analyzed and diagnosed.

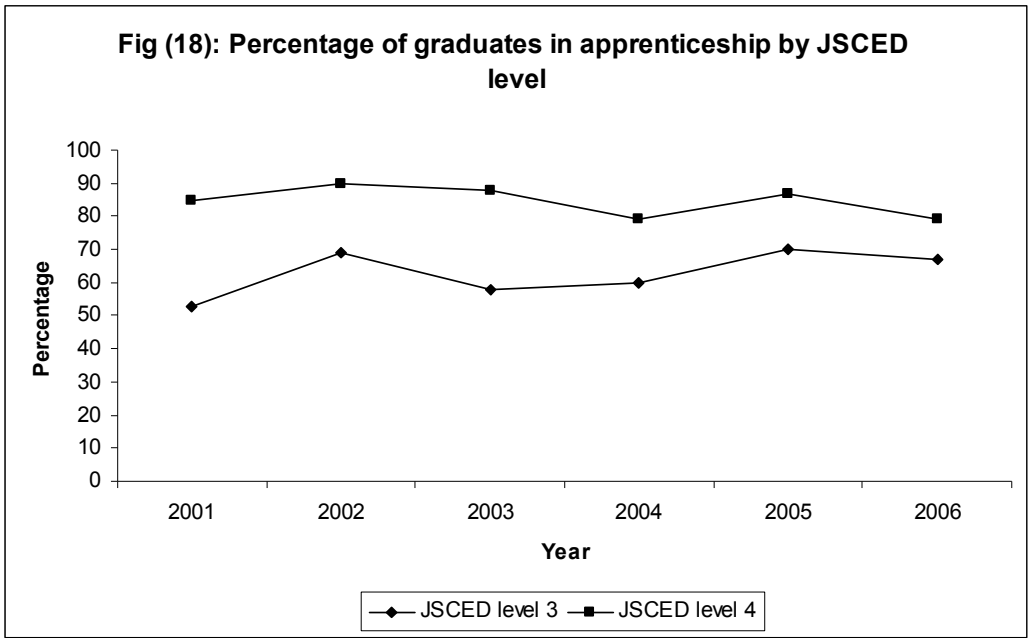
Table (26): percentage of graduates in vocational education by type and gender

Type of education	percentage			
	Year	total	Male	Female
Commercial	٢٠٠١	٤٤.٢	٣٥.٥	٥١.٣
	٢٠٠٢	٢٩.٨	٢٤.٩	٣٤.٢
	٢٠٠٣	٢٤.٤	٢٢.١	٢٦.٥
	٢٠٠٤	---	----	---
	٢٠٠٥	---	----	---
	٢٠٠٦	---	----	---
Agricultural	٢٠٠١	٣٨.٥	٣٣.٧	٦٧.٩
	٢٠٠٢	٢٩.٧	٢٥.٨	٥٦.٥
	٢٠٠٣	٣١.٢	٢٨.٥	٤٣.٦
	٢٠٠٤	٢٧.٦	٢٤.٤	٤٥.١
	٢٠٠٥	١٩.٧	١٨.٤	٢٨.4
	٢٠٠٦	NA	NA	NA
Industrial	٢٠٠١	٣٩.٩	٤٠	١٦.٧
	٢٠٠٢	٢٨.٧	٢٨.٦	١٠٠
	٢٠٠٣	٢٦.٢	٢٦.٢	١٦.٧
	٢٠٠٤	٢٥.٦	٢٥.٦	٢٢.٦
	٢٠٠٥	١٦.7	١٦.7	١٧.١
	٢٠٠٦	NA	NA	NA
Nursing	٢٠٠١	٥٩.٤	٥٥.٧	٦١
	٢٠٠٢	٤٠.٣	٣٠.٩	٤٤.٤
	٢٠٠٣	٤٨.٥	٤٨.٩	٤٨.٣
	٢٠٠٤	٦١	٥٨.٧	٦٢.١
	٢٠٠٥	٨٠.4	٨١.0	٨٠.8
	٢٠٠٦	NA	NA	NA
Hotel	٢٠٠١	٤٨.٨	٤٨.٨	--
	٢٠٠٢	٢٩.٤	٢٩.٤	--
	٢٠٠٣	٢٦.١	٢٦.١	--
	٢٠٠٤	٠	٠	--
	٢٠٠٥	١٩.٨٩	١٩.٨٩	--
	٢٠٠٦	NA	NA	NA
Home Economics	٢٠٠١	٤٢.٨	٣٧.٥	٤٢.٨
	٢٠٠٢	٢٩.٤	٧.١	٢٩.٥
	٢٠٠٣	٣٠.٩	٠	٣٠.٩
	٢٠٠٤	٢٩.٢	٦.٣	٢٩.٣
	٢٠٠٥	٣٤.٣	٠	٣٤.5
	٢٠٠٦	NA	NA	NA

Source: Ministry of Education

b- Percentage of graduates in apprenticeship by type and gender

Fig. (18) shows the total percentage of graduates in apprenticeship by JSCED level for the period 2001-2006. The percentage of graduates per gender and specialization is not available. The graduation percentage for JSCED level 3 is improving as it increased from 53% to 67% in 2006. The percentage of graduates in JSCED level 4 is better than that for JSCED level 3. This may be interpreted as better educational background of students or the result of more efficient teaching with a greater focus on the individual students and their educational well-being.



Source: VTC

C- percentage of graduates in technician education by type and gender

Information is not available.

Conclusions

Completion

- The high completion rate in vocational education is due to low dropout and repetition rates.
- The dropout rate in vocational education is almost stable (1-2%) through the period 2001-2006. The rate is comparatively low and acceptable. The dropout rate by specialization (programme) in apprenticeship is not available.

• Information regarding completion rate in technician education is not available.

Dropout

- The total dropout rate in apprenticeship increased up to 12.2% in 2003. The reasons could be attributed to lack of effective counseling services, lack of effective follow-up of students at the workplace and the work relations within the work place.
- The dropout rates started to decrease in 2004 to reach 10.6% in 2005 and 5.8% in 2006. This drop may be interpreted as an improvement in training delivery.

• Dropout rate in technician education is not available**.**

Graduation

- It is noticeable that the total percentage of graduates in vocational education is decreasing (nursing is an exception). The graduation rate is an indication of the internal efficiency of vocational education system. Low graduation rates represent an educational waste (low performance/outcomes). **The reasons for this dramatic drop should**

be further studied, analyzed and diagnosed. The percentage of graduates among females is higher than among males.

- The percentage of graduates per gender and specialization in apprenticeship is not available. The graduation percentage for JSCED level 3 is improving as it increased from 53% to 67% in 2006. The percentage of graduates in JSCED level 4 is better than that for JSCED level 3. This could be attributed to better educational background of students. Percentage of graduates in technician education is not available
- Information regarding completion rates in apprenticeship, dropout and completion rates in technician education is not available. Such information should be made available by the TVET providers in order to measure the performance of the TVET system.

6. Resources for TVET

- **The aim of this chapter is to measure the achievement of the policy major operational objective ' Rationalization of investment in training'.**
- **It addresses the main current developments regarding public educational expenditure in TVET compared to gross domestic product (GDP), public educational expenditure in TVET to the total of public expenditure, relative proportions of public and private investment in educational institutions and funding of TVET by sources and type of education and training.**

6.1 Percentage of current public educational expenditure in TVET to gross domestic product (GDP)

a- Percentage of current public educational expenditure in vocational education to gross domestic product (GDP)

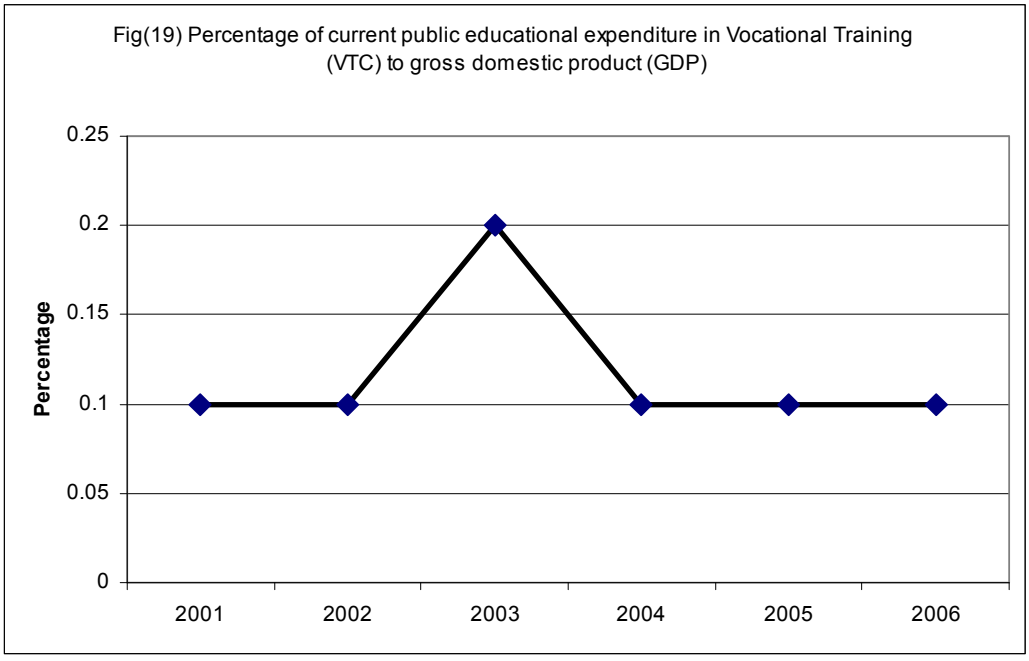
Information is not available.

b- Percentage of current public educational expenditure in vocational training to gross domestic product (GDP)

Fig (19) shows that the current public expenditure in vocational training corporation (VTC) is steadily increasing. As a result, **the percentage of current public expenditure in vocational training to gross GDP is almost stable through the period 2001-2005.**

There is some concern about the content of the educational expense for respectively vocational education and vocational training. Please see section 6.3 for a further discussion of this.

Fig(19) Percentage of current public educational expenditure in Vocational Training (VTC) to gross domestic product (GDP)



Source : VTC & DOS

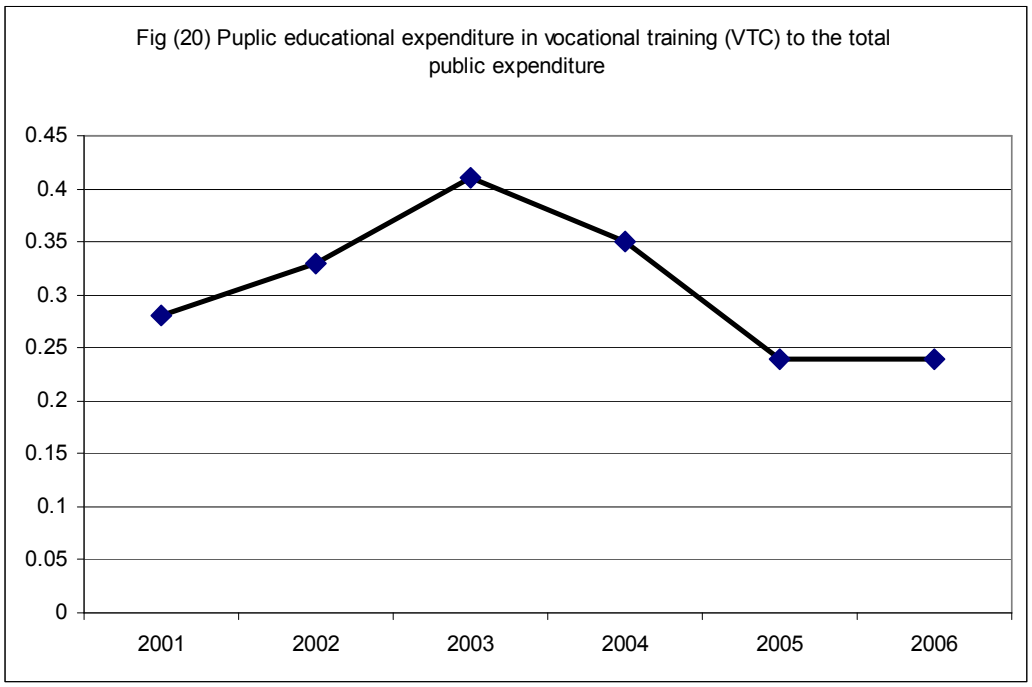
C- Percentage of current public educational expenditure in technician education to gross domestic product (GDP)

Information is not available

6.2 Public educational expenditure in TVET to the total public expenditure

a- Public educational expenditure in vocational training to the total public expenditure

Fig (20) shows the percentage of public expenditure in vocational training (VTC) to total public expenditure for the period 2001 - 2003. The substantial increase for vocational training as a percentage of government expenditure (almost doubling in three years) must be seen next to the decrease in expenditure for vocational training as a percentage of GDP.



Source: VTC and DOS

b- Public educational expenditure in technician education to the total public expenditure

Information is not available.

6.3 public expenditure per student by type of education and training

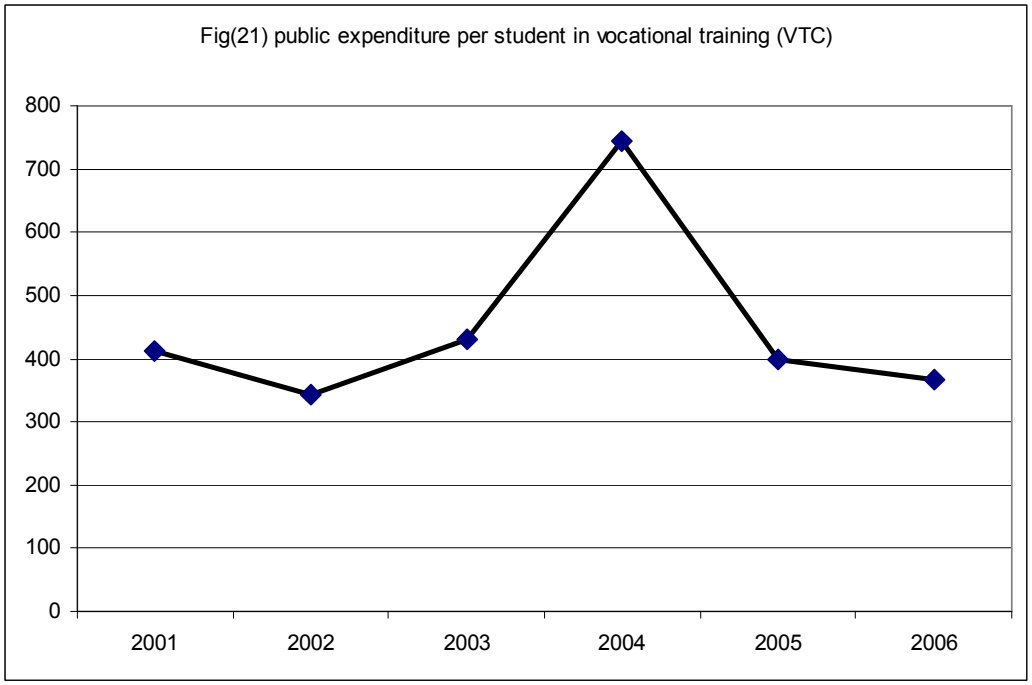
a-public current expenditure per student in vocational education

Information is not available.

b-public current expenditure per student in vocational training

Fig (21) shows the public expenditure per student in vocational training through the period 2001-2006, as it increased from 410JDs in 2001 to 745JDs in 2004 and decreased into 368 in 2006. This should not be over-interpreted however as VTC costs include other large expenses not directly related to vocational training, such as occupational regulations and testing of individual workers.

The concerns over the quality of the data on expenses are so great that this indicator cannot reliably be said to reflect actual costs. More detailed data is needed to determine the actual cost per pupil in MOE and VTC respectively. The cost per pupil indicator has only been included in this report to highlight the need for more detailed and comparable data.



Source: VTC

c- public current expenditure per student in technician education

Information is not currently fully available. This information will in the future be available from the school year of 2005 and onwards from BAU public community colleges. It will be worthwhile to examine the cost per graduate at this level, which has the added benefit of being a measure of internal efficiency.

6.4 Relative proportions of public and private investment in educational institutions

Information is not available for all TVET agencies. Greater efforts should be made to collect information from private institutions.

6.5 Funding of TVET by sources and type of TVET

Information is not available for all TVET agencies

Conclusions

- The allocated resources for VET in general as a percentage of GDP is considerably low. More than 90 % of the VET expenditure goes for staff salaries. Such shortage of resources may be considered as one reason of the limited quality and achievements of the VET system. Thus, the TVET policy major operational objective "Rationalizing investment in training (resources for TVET)" may be considered as not fully achieved
- The current public expenditure in vocational training corporation (VTC) is steadily increasing. As a result the percentage of current public expenditure in vocational training to gross GDP is stable through the period 2001-2005.
- The current vocational training expenditure slightly increased for the period 2001-2006 and the percentage of vocational training expenditure to total public expenditure almost doubled in 2005 compared to 2001. These changes may be explained by the private sector becoming a larger relative factor in the Jordanian economy.
- Information regarding the current public expenditure in technician education is not available**.** BAU should avail such information in order to measure how rational their investment in technician training is.
- Information regarding relative proportions of public and private investment in educational institutions**,** and funding of TVET by sources and type of education and training is not available. Measures need to be taken in order to request training providers to avail such information in order to measure how rational investment in TVET is.

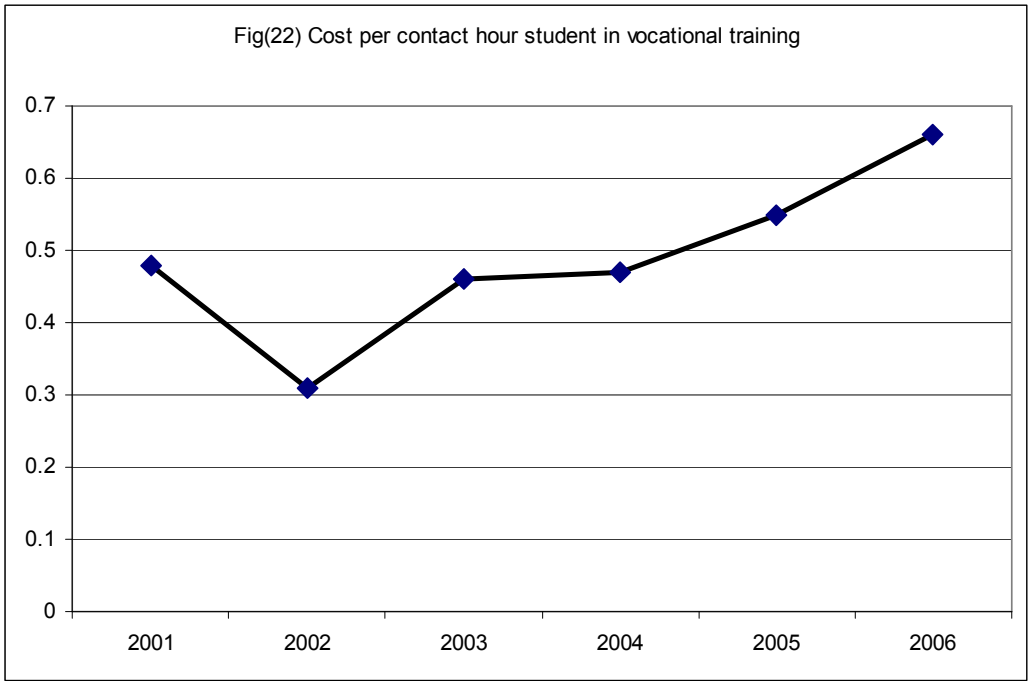
7. Maximizing the value of TVET expenditure

The aim of this chapter is to measure the achievement of the policy major operational objective ' Maximising the value of public TVET expenditure'.
It addresses the main current developments regarding the cost per contact hour per programme, graduate cost per programme, and teaching load per teacher, teacher qualifications and experience by gender and educational level.

7.1 Cost per contact hour

a. Cost per contact hour in vocational education (MOE)
Information is not available.

b. Cost per contact hour in vocational training (VTC)
Fig (22) shows the cost of contact hour per student/trainee in vocational training



Source: VTC

C- Cost per contact hour in technician training
Information is not available

7.2 Graduate cost per programme

Data and information regarding graduate cost per programme are not available

7.3 Teaching load per teacher

Data and information regarding graduate cost per programme are not available

7.4 Teachers' qualifications

a- Teachers' qualifications by gender and educational level

▪Teachers' qualifications by gender and educational level in vocational education

Table (27) shows the distribution of Teachers' qualifications by gender and educational level in vocational education. **The total number of teachers (for both males and females) is steadily increasing. The percentage of female teachers is decreasing from 47.0% in 2001 to 32.7% in 2006**. The total number of teachers dropped in 2004 to 2162 due to shifting of commercial education from vocational to general education. **The percentage of teachers holding bachelor degree is the highest and is increasing from 56.7% in 2001 to 62.1% in 2006.** This is attributed to an attempt to comply with the education law requirements which states that all teachers should hold bachelor degree as a minimum. The percentage of associate professional teachers comes at the second place and is gradually decreasing from 31.2% in 2001 to 27.1% in 2006. This group delivers mainly practical training in the training workshops. The percentage of teachers holding high diploma comes at the third place and is slightly decreasing from 6.5% in 2001 to 5.8% in 2006. The percentage of teachers holding secondary education certificate and less than secondary certificate is almost stable around 2% and comes at the fourth place. The percentage of teachers holding PhD is stable around 0.1%.

Table (27): Teachers' qualifications by gender and educational level in vocational education

year	gender	Less than secondary		secondary		Associate professional		bachelor		High diploma & master		PhD		Grand total	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%
2001	**Total**	**51**	**1.6**	**123**	**3.9**	**980**	**31.2**	**1785**	**56.7**	**204**	**6.5**	**3**	**0.1**	**3146**	**100**
	Male	2	0.1	23	1.4	579	34.8	909	54.6	150	9.0	3	0.2	1666	53
	Female	49	3.3	100	6.8	401	27.1	876	59.2	54	3.6	0	0.0	1480	47
2002	**Total**	**71**	**2.1**	**108**	**3.1**	**1012**	**29.2**	**1935**	**55.9**	**221**	**6.4**	**3**	**0.1**	**3463**	**100**
	Male	2	0.1	22	1.2	568	31.2	991	54.4	156	8.6	3	0.2	1823	52.6
	Female	69	4.2	86	5.2	444	27.1	944	57.6	65	4.0	0	0.0	1640	47.4
2003	**Total**	**64**	**1.9**	**185**	**5.6**	**1030**	**31.0**	**1859**	**55.9**	**186**	**5.6**	**4**	**0.1**	**3323**	**100**
	Male	2	0.1	18	1.0	607	33.7	992	55.0	129	7.2	4	0.2	1802	54.2
	Female	62	4.1	67	4.4	423	27.8	862	56.7	57	3.7	0	0.0	1521	45.8
2004	**Total**	**52**	**2.4**	**99**	**4.6**	**954**	**44.1**	**902**	**41.7**	**152**	**7.0**	**3**	**0.1**	**2162**	**100**
	Male	0	0.0	18	1.5	590	49.1	492	40.9	99	8.2	3	0.2	1202	56
	Female	52	5.4	81	8.4	364	37.9	410	42.7	53	5.5	0	0.0	960	44
2005	**Total**	**61**	**1.9**	**99**	**3.0**	**898**	**27.5**	**2029**	**61.8**	**192**	**5.7**	**4**	**0.1**	**3352**	**100**
	Male	1	0.1	18	1.0	521	31.2	1001	59.9	124	7.4	4	0.2	1731	51.6
	Female	60	3.7	81	5.0	377	23.4	1028	63.7	68	4.2	0	0.0	1621	48.4
2006	**Total**	**61**	**1.8**	**99**	**3.0**	**898**	**27.1**	**2057**	**62.2**	**192**	**5.8**	**4**	**0.1**	**3311**	**100**
	Male	1	0.1	18	1.1	521	31.0	1015	60.3	124	7.4	4	0.2	1683	67.3
	Female	60	3.7	81	5.0	377	23.2	1042	64.2	68	4.2	0	0.0	1623	32.7

Source: Ministry of Education

■Teachers' qualifications by gender and educational level in vocational training

Table (28) shows the distribution of teachers' qualifications by gender and educational level in Vocational Training Corporation (VTC). The total number of teachers is not stable as it decreased from 607 in 2001 to 505 in 2002 and 548 in 2003, then increased to 719 in 2004, decreased again to 697 in 2005 and then increased to 757 in 2006. The increase or decrease in total number of teachers depends upon the total number of participants. **The female percentage of female teachers increased from 7.2 % in 2001 to 17.4% in 2006**. This increase is attributed to the high increase in number of female participants in vocational training, as the courses attractive to women are also often taught by women. The largest group of teachers is made up of associate professionals (43.2% of all teachers in 2006). The percentage of teachers holding university degree comes at the second place 25.4% in 2006. The percentage of teachers holding secondary education certificate is 25% in 2006. Those with less than secondary education represent the lowest percentage: 8.3% in 2006. High gender gaps favouring male over female teachers at all educational levels are noticeable. These gaps are attributed to very low female participation in vocational training (while steadily increasing in 2006).

The qualifications of the teachers in vocational training are on average less than for teachers in vocational education. This is due to the greater emphasis on practical experience in vocational training.

Table (28): Teachers' qualifications by gender and educational level in vocational training

year	Gender	Less than secondary		secondary		Associate professional		University degree		Grand total	
		No	%	No	%	No	%	No	%	No	%
2001	Total	78	12.9	126	20.8	279	46	124	20.4	607	100
	Male	71	12.6	116	20.6	259	46	117	20.8	563	92.8
	Female	7	15.9	10	22.7	20	45.5	7	15.9	44	7.2
2002	Total	70	13.9	135	26.7	155	30.7	145	28.7	505	100
	Male	64	13.7	126	27	140	30	136	29.2	466	92.3
	Female	6	15.4	9	23.1	15	38.5	9	23.1	39	7.7
2003	Total	81	14.8	130	23.7	167	30.5	170	31	548	100
	Male	69	14.3	115	23.9	143	29.7	154	32	481	87.8
	Female	12	17.9	15	22.4	24	35.8	16	23.9	67	12.2
2004	Total	78	10.8	154	21.4	312	43.4	175	24.3	719	100
	Male	66	10.5	133	21.2	270	43.1	157	25.1	626	87.1
	Female	12	12.9	21	22.6	42	45.2	18	19.4	93	12.9
2005	Total	69	9.9	138	19.8	302	43.3	188	27	697	100
	Male	57	9.5	118	19.7	256	42.7	169	28.2	600	86.1
	Female	12	12.4	20	20.6	46	47.4	19	19.6	97	13.9
2006	Total	83	11	155	20.5	327	43.2	192	25.4	757	100
	Male	64	10.2	124	19.8	272	43.5	165	26.4	625	82.6
	Female	19	14.4	31	23.5	55	41.7	27	20.5	132	17.4

Source: VTC

■ Teachers' qualifications by gender and educational level in technician education

Table (29) shows the distribution of Teachers' qualifications by gender and educational level in technician education. As could be expected, the level of qualifications is higher than in either vocational education or training. No teachers in technician education have less than associate professional as their educational background.
From the table, there is a big difference of PhD holders in academic staff between years 2001 and 2006, the number has been doubled. The reasons behind this noticed increase are the followings:

* The Ministry of Higher Education and Scientific Research instructions obliged the universities and community colleges to employ specific number of post graduate degree holders.
* The number of PhD degree holders has increased in the last years. In addition, the number of non-Jordanian PhD degree holders has increased, especially Iraqis.
* Many community colleges offer bachelor degree programmes. Such programmes depend on PhD teachers to comply with the accreditation conditions.

* The number of PhD holders among female teachers is remarkably low.

The number of master degree has also increased among academic staff in each gender. This may also be explained by the following reasons:

* Many holding bachelor degrees and diploma degrees continue their education to improve their social, scientific and financial conditions.
* Some new programmes and majors were opened, especially in IT which demand people who have master degree for applied and laboratory experiences.

It is noticeable that the number of high diploma degree holders among academic staff is decreasing, because it is considered as a temporary stage to move from bachelor degree to master degree.

The number of bachelor degree and associate professional certificate holders in the academic staff is relatively decreasing because of the lack of opportunities.

The total number of teaching staff is steadily increasing, from 689 in 2001 to 1061 in 2006. The ratio of female teachers is slightly decreasing from 29.6% in 2001 to 26.5% in 2006 even though the absolute number of female teaching staff has increased.

Table (29): Teachers' qualifications by gender in technician education

year	Gender	Qualifications											
		Associate professional		bachelor		High diploma		Master		PhD		Grand total	
		No	%	No	%	No	%	No	%	No	%	No	%
2001	Total	41	6.0	278	40.3	50	7.3	196	28.4	124	18.0	689	100
	Male	30	6.2	184	37.9	20	4.1	140	28.9	111	22.9	485	70.4
	Female	11	5.4	94	46.1	30	14.7	56	27.5	13	6.4	204	29.6
2002	Total	49	6.4	275	35.7	36	4.7	226	29.3	185	24.0	771	100
	Male	34	6.1	181	32.3	11	2.0	161	28.8	173	30.9	560	72.6
	Female	15	7.1	94	44.5	25	11.8	65	30.8	12	5.7	211	27.4
2003	Total	36	4.1	277	31.5	32	3.6	279	31.8	255	29.0	878	100
	Male	18	2.8	175	27.4	12	1.9	194	30.4	239	37.5	638	72.6
	Female	18	7.5	102	42.3	20	8.3	85	35.3	16	6.6	241	27.4
2004	Total	39	4.4	271	30.5	32	3.6	305	34.3	242	27.2	889	100
	Male	25	3.8	179	27.2	20	3.0	209	31.7	226	34.3	659	74.1
	Female	14	6.1	92	40.0	12	5.2	96	41.7	16	7.0	230	25.9
2005	Total	47	4.7	324	32.1	36	3.6	336	33.3	267	26.4	1010	100
	Male	30	4.0	214	28.7	22	3.0	230	30.9	249	33.4	745	73.8
	Female	17	6.4	110	41.5	14	5.3	106	40.0	18	6.8	265	26.2
2006	Total	58	5.5	335	31.6	38	3.6	351	33.1	279	26.3	1061	100
	Male	37	4.7	220	28.2	24	3.1	239	30.6	260	33.3	780	73.5
	Female	21	7.5	115	40.9	14	5.0	112	39.9	19	6.8	281	26.5

Source: BAU

b-Teachers by gender and years of experience

■ Teachers by gender and years of experience in vocational education

Table (30) shows the percentage distribution of teachers by gender and work experience for the period 2001-2006. It is noticed that there are relatively few teachers with more than 15 years of experience. That is partly due to turnover and early retirement and partly to the expansion of the population which has necessitated an increase in the number of schools and teaching staff over the last decades. This is confirmed by the fact that the percentage of teachers with less than 5 years of experience is the highest and is steadily increasing from 29.8% in 2001 to 37.8% in 2006.

Table(30): Percentage distribution of teachers by gender and years of experience in vocational education

year	gender	Years o f experience				
		0-5 years	6-10 years	11-15 years	16-20 years	21+ years
2001	Total	29.8	26.8	22.1	15.4	8.8
	Male	15.9	12.9	11.8	8.9	6.6
	Female	13.9	13.9	10.3	6.5	2.2
2002	Total	28.4	26.8	20.2	15.7	8.9
	Male	13.0	13.0	10.5	9.7	5.9
	Female	15.4	13.8	9.7	6.0	3.0
2003	Total	31.4	23.4	18.7	16.7	9.9
	Male	15.7	11.3	9.8	10.6	6.6
	Female	15.7	12.1	8.9	6.1	3.3
2004	Total	35.4	20.4	17.6	16.4	9.7
	Male	18.0	9.8	9.0	10.6	6.8
	Female	17.4	10.6	86	5.8	2.9
2005	Total	38.4	22.0	18.9	17.6	9.7
	Male	19.4	10.6	9.7	11.4	7.4
	Female	19.0	11.4	9.2	6.2	2.3
2006	Total	37.8	21.5	18.5	17.2	9.7
	Male	19.0	10.3	9.5	11.1	7.2
	Female	18.8	11.2	9.0	6.1	2.5

Source: Ministry of Education

■ Teachers by gender and years of experience in vocational training

Table (31) shows the percentage distribution of teachers by gender and work experience for the period 2001-2006. The percentage of teachers having (16+) years stands at the first place (the highest) and is steadily increasing from 28.7% in 2001 to 38.2% in 2006. The percentage of teachers having (0-5) years of experience stands at the second place and is steadily increasing from 17.6% in 2001 to 35.3% in 2006. This is attributed to new appointments to meet the needs of expansion and substitution. The percentage of teachers having (6-10) years is steadily decreasing from 26.5% in 2001 to 11.7% in 2006 that is due to high turnover rate. The percentage of teachers having (11-15) years is steadily decreasing from 27.2% in 2001 to 14.5% in 2006.

Table (31): Teachers by gender and years of experience in vocational training

year	gender	Years o f experience			
		0-5 years	6-10 years	11-15 years	16+ years
2001	Total	17.6	26.5	27.2	28.7
	Male	15.4	22.2	29.1	27.8
	Female	2.2	4.3	3.1	0.9
2002	Total	20.8	26.2	18.8	34.1
	Male	16.6	22.0	16.9	30.8
	Female	4.2	4.2	1.9	2.3
2003	Total	38.7	15.9	15.5	36.5
	Male	26.0	13.2	12.5	33.8
	Female	12.7	2.7	2.5	2.7
2004	Total	42.2	12.0	17.2	44.9
	Male	27.7	9.6	15.0	41.7
	Female	14.5	2.4	2.2	3.2
2005	Total	39.3	9.2	14.2	37.3
	Male	26.4	7.2	12.0	34.5
	Female	12.9	2.0	2.2	2.8
2006	Total	35.3	11.7	14.5	38.2
	Male	22.3	10.0	12.0	35.2
	Female	13.0	1.7	2.5	3.0

Source: VTC

■ **Teachers by gender and years of experience in technician education**
Information is not available

7.5 cost of in-service training for teaching staff by institution

Information is not available for all TVET agencies

Conclusions

As information regarding cost per contact hour in technician education, graduated cost per programme and teaching load per teacher are not available it was not possible to measure the achievements of the major operational objective "maximizing the value of public TVET expenditure ". It is highly recommended to request training providers to make such information available.

Cost per contact hour

More refined data on the costs are needed to compare costs per student and per contact hour in TVET programmes.

Teacher qualifications

Generally speaking qualifications of teachers at the Ministry of Education are higher than teachers at VTC. This may be explained by the efforts made by MoE to comply with law stating the bachelor degree as a minimum for teachers and the curricular organization of VE where teachers may have to teach general education subjects (30%). At VTC vocational theory and practical training are delivered by the same teacher who holds in general the associate professional certificates.

Gender issue

As regards gender, it is noticeable to say that while the percentage of female teachers in vocational education is decreasing from 47.0% in 2001 to 32.7% in 2006, it increased from 7.2 % in 2001 to 17.4 in 2006 at VTC. This may be explained by the high increase in number of female participant in vocational training. As concerns technician education, there is a big difference of PhD holders in academic staff between years 2001 and 2006, the number has been doubled. The number of master degree holders has also been increased among academic staff in each gender, the reason behind this lies with the new accreditation conditions.

Numbers of teachers

Remarkably, the total number of male and female teachers in vocational education and the total number of teachers (trainers) in vocational training increased from 2001 to 2006. This contradicts the figures concerning participation rates in TVET. In VE, the percentage of associate professional teachers comes at the second place and gradually decreasing from 31.2% in 2001 to 27.1% in 2006, This group delivers mainly practical training in the training workshops. The high percentage of teachers (trainers) in VTC is associate professionals (43.2% in 2006). The percentage of teachers holding university degree comes at the second place (25.4% in 2006).

The total number of teaching staff in technician education (community colleges) is steadily increasing , from 689 in 2001 to 1061 in 2006. The ratio of female teachers is slightly decreasing from 29.6% in 2001 to 26.5% in 2006. The number of bachelor degree and associate professional certificate holders in the academic staff is relatively decreasing because there are few job opportunities

Age teaching pyramid

The youngest generation of teachers (0-5 years of experience) at MoE is now the most important cohort (from 29.8% in 2001 to 37.8% in 2006). This is attributed to new appointments made to meet the needs of expansion and substitution of early retired staff.

At VTC the largest group of teachers is formed of those who have more than 16 years of practice. It is steadily increasing from 28.7% in 2001 to 38.2% in 2006. The percentage of teachers having (0-5) years of experience stands at the second place and is steadily increasing from 17.6% in 2001 to 35.3% in 2006.

In general one may say that the training-teaching staff is under deep modification and the arrival of young teachers should be an opportunity to boost the reform process, modernize training capacities and increase quality delivery.

8. Recommendations

The lack of information available regarding access to TVET, performance of the TVET system, resources for TVET and maximizing the value of TVET expenditure, limits the possibility to reach comprehensive conclusions by linking the groups to each other. Nevertheless this report points out a number of questions which would require further attention from policy makers to make the TVET system in Jordan responsive to the needs of the Labour Market and to deliver quality training in an effective and efficient manner. The present chapter proposes options for further discussion leading to policy decisions. It focuses on each of the main objectives described earlier and directly addresses the highest governance body, namely the E-TVET Council in charge to pilot the reform of the sector.

Equipping Jordanians for the world of work;

To improve employment opportunities, it is recommended that the E-TVET council consider:

- Developing an E-TVET sector strategy for guidance and counseling to help individuals start, manage and improve MSMEs (micro, small and medium enterprises)
- Promotion of the entrepreneurship culture within the system of education in general and in TVET system in specific
- Development and implementation of the concept of training for employment with the partnership of employers. National training and employment projects can play an active role in this respect
- Training programmes and trade specializations offered in TVET institutions to be carefully studied and linked to local labour market needs as well as labour market needs throughout the Arab region
- Training programmes should be flexible and competency based to provide employment flexibility
- The occupational patterns and specializations of women should be further studied, analyzed and linked with women employment opportunities.

Enhancing upper and horizontal mobility in the labour market

To improve the participation rate in TVET in general and in VET in specific, the E-TVET council may adopt a policy objective aiming at:

- Increasing the participation rate in TVET from 12.1% in 2006 by a specific percentage (2-3% as an example) annually for a specific period (10 years as an example)
- Increasing the participation rate in VET from 13.3% in 2006 by a specific percentage (2-3% as an example) annually for a specific period (10 years as an example).

Achieving equitable outcomes (outputs and outcomes) and Performance of the TVET system

To improve the performance of TVET in terms of completion rates, dropout rates and percentage of graduates, the E-TVET council may consider the following:

- Set up expert team to study and analyze the problem to identify the real, not felt, causes and suggest practical solutions
- Development of student centered training methodologies
- Development of effective guidance and counseling mechanisms.

Rationalizing investment in training (performance of TVET System)

To ensure the efficient and effective use of current public expenditure, the E-TVET council may consider:

● The current expenditure per student in each programme and trade specialization should be carefully studied and analyzed to identify the most practical average expenditure. The allocation of public expenditure may be based on outputs rather than inputs to encourage healthy competition in training institutions
● TVET providing institutions should be given the power to explore and implement income generation activities such as providing consultancy services and production through training without negatively affecting the quality of training
● The TVET fund, under certain conditions, may fund TVET institutions offering training for employment courses

These recommendations cannot stand alone. They must be seen alongside efforts to reform the entire TVET system. Discussions on this reform are ongoing, but the results and activities listed in the annex include several results and activities that relate to conclusions and recommendations stemming from this report. Below some of the most relevant results and activities will be discussed to highlight the links between this report and the continuing reform efforts.

The relevant results and activities are primarily found in the first three out of the six main results shown in annex 1.

9. Next steps

To ensure a solid evidence base for policy making, the E-TVET Council may consider:

- Continuing to develop more indicators as a basis for analysis. Such indicators should be driven by changes in objectives. Initial plans for work in 2008 include developing indicators on transition, continuing TVET, workplace training, internal and external efficiency, output performance and others
- Supporting regular analysis and studies of issues relating to E-TVET. Such analysis should be given the necessary resources and anchored in an institution. The NCHRD could be considered for this coordination.
- Inputs in the form of data and information from each TVET provider (public and private including the Chambers of Commerce and Industry) should be secured through formal and sustainable commitment from these institutions. To ensure continuity it is advised that each institution dedicates the necessary resources to this task in the form of an institutionalized technical team with responsibility for developing and providing the required data to the coordinating institution (NCHRD).
- Providing the necessary funding to the NCHRD to undertake the role as coordinating body and analytical role.
- Requesting the coordinating body to maintain stable links to other actors, such as the Development Coordination Unit at the Ministry of Labour, involved in monitoring the E-TVET reform process. A free exchange of information and data and tight coordination of activities must take place for all actors to fulfill their role.

a- Initial (quantitative) indicators

The representatives of MOE, VTC and BAU in the technical committee should persuade their institutions to avail data regarding the missing information required to calculate indicators related to the areas shown in the following list

Missing areas	**TVET provider**		
	MOE	**VTC**	**BAU**
■ **Access to TVET**			
● Net enrolment rate in TVET by gender.	●	●	--
● Gross enrolment rate in TVET by region, and gender.	--	--	--
● Net enrolment rate in TVET by region, and gender.	--	--	--
■ **Performance in TVET**			
● Completion rates in TVET by programme, and gender.	●	--	●
● Dropout rates in TVET by gender, and programme.	●	●	--
● Percentage of graduates in TVET by gender and programme.	●	●	--
■ **Resources for TVET**			
● Percentage of current public educational expenditure in TVET to gross domestic product (GDP).	●	--	●
● Public educational expenditure in TVET to the total public expenditure.	●	--	●
● Public expenditure per student by type of education and training	●	--	●
● Relative proportions of public and private investment in educational institutions.	●	●	●
● Funds of TVET by sources and type of education and training.	●	●	●
■ **Maximising the value of public TVET expenditure (outputs)**			
● Cost per contact hour.	●	--	●
● Graduate cost per programme.	●	●	●

• Teaching load per teacher.	•	•	•
• Teachers' qualifications by gender, and years of experience.	--	--	•
• Cost of in service training for teaching staff training by institution.	•	•	•

• = Data not available
-- = Data available

b- Quality indicators

A technical committee under the coordination of the NCHRD will continue working on a list of quality indicators, including their definitions and calculation (transition, continuing TVET, workplace training, internal and external efficiency, output performance and others).

c- Development of database

The NCHRD is to:

• encourage the TVET providers to develop their database in a compatible manner, with a special focus on data required to calculate the TVET indicators.

• Organize and implement training workshops on TVET indicators for concerned staff members in TVET and information providers.

d- Reporting on analysis of TVET indicators

The E-TVET Council should secure the funding and production of an annual report using these indicators. The NCHRD should be requested to take the lead in this work in collaboration with all stakeholders.

e- Outline plan

Activity	Responsibility	Tentative schedule
1 – Presentation of the TVET analytical report to the Steering Committee and upon approval to the E-TVET council	NCHRD and TVET providers	July 2008
2 – Publication of TVET analytical report	ETF	January 2009
3 - Preparing and finalizing the manual on quality indicators	A technical committee (ETF support is needed)	By August 2009
4 - Analyzing quality indicators	NCHRD	By the end of 2009
5 - Reporting on TVET analysis	NCHRD	Periodically (preferable annually)

Annexes

Annex 1. Expected results and activities from E-TVET action plan (log frame) (draft May 2008)

Result 1: Employment Services are Improved

R1-1 Enhance the capacity of MoL to promote employment

R1-1-A Evaluate role and mandate of the MoL

R1-1-B Develop a restructuring process of the MoL with focus on employment issues

R1-1-C Implement capacity building measures for MoL with special emphasis on Employment and Training Unit

R1-1-D Establish and approve regulations for the new structure

R1-2 Develop an employment policy with the participation of relevant stakeholders

R1-2-A Carry out a stocktaking study to assess the key employment challenges

R1-2-B Develop an employment policy

R1-2-C Implement the employment policy

R1-3 Enhance the participation of relevant stakeholders in the planning of employment aspects of the E-TVET strategy

R1-3-A Carry out a stocktaking study to assess role of stakeholders in the planning of employment

R1-3-B Set up new measures securing the involvement of the relevant stakeholders in the planning of the E-TVET strategy.

R1-4 Increase employment services of E-TVET providers

R1-4-A Assess scope and quality of employment services being used by TVET providers

R1-4-B Develop and implement an action plan to upgrade the employment services in the public and private training providers

R1-5 Develop career guidance and counseling services of the public and private concerned agencies

R1-5-A Assess scope and quality of career guidance and counseling services by the concerned public and private agencies against international standards.

R1-5-B Draft and implement an action plan for career guidance and counseling services

R1-6 Develop and implement active measures to increase employment

R1-6-A Identify, develop and implement active labour market measures for the unemployed

R1-6-B Identify, develop and implement active labour market measures to increase employment in SMEs

R1-6-C develop and implement active labour market measures to increase employment for women

R1-6-D Identify, develop and implement active labour market measures to increase employment for those with special needs

R1-7 Support the private and public employment services to promote the employment of Jordanians abroad

R1-7-A Assess existing public and private employment services, roles and capacities

R1-7-B Develop an information system for the identification of work opportunities for the employment of Jordanians abroad

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R1-8 Organize awareness-raising campaigns on the national employment initiatives and policies

R1-1-A Establish sustainable linkages and channels between MoL services and the media

R1-1-B Develop awareness-raising campaigns on national employment policies and initiatives

R1-9 Establish ongoing monitoring of labour market requirements based on the following:

R1-9-A Labour market surveys – (can be linked to HRI-system in R-2-5)

R1-9-B Develop a Labour Market Information system (LMIS)

R1-9-C Develop a system of dissemination the LMI information to all stakeholders and the public (may be linked to the HRI system in R-2-5)

Result 2: Effective E-TVET Sector Governance and Planning are Enhanced

R2-1 Develop legislation to provide a new legal framework for E-TVET system

R2-1-A Implement an evaluation study of all existing legislation related to E- TVET in light of the E-TVET strategy

R2-1-B Adopt new legislation or amendments to existing legislation as necessary through the official procedures

R2-2 Establish policy making bodies: HRD and E-TVET Councils, including a technical arm for both

R2-2-A Secure government decision to implement activity

R2-2-B Draft legislative tools (laws or by-laws) with participation of concerned bodies

R2-2-C Secure approval of TVET Council for draft laws

R2-2-D Secure approval of Cabinet for draft laws at the recommendation of the Legislation Bureau

R2-2-E Secure approval of Parliament for draft laws

R2-3 Develop the capacity of all public and non-governmental E-TVET providers in planning, policy design and decision making related to the E-TVET Council

R2-3-A Evaluate role and mandate of the MoL

R2-3-B Develop a restructuring process of the MoL with focus on employment issues

R2-4 Develop coordination and complementarity among all E-TVET providers related to the E-TVET Council

R2-4-A Assess the extent and nature of coordination and complementarily among all E-TVET providers

R2-4-B Develop, adopt and implement an action plan to ensure coordination and complementarily among all E-TVET providers

R2-5 Continuous development of the national HRI system is promoted

R2-5-A Finalize basic structure of national HRI system, covering supply and demand sides

R2-5-B Develop HRI systems of major information providers to be compatible with national HRI system

R2-5-C Identify and incorporate new information providers to feed into the national HRI system

R2-5-D Assess and improve national HRI system on a continuous basis

R2-6 Increase emphasis on research and development in E-TVET to inform policy-making

R2-6-A Assess the existing research and studies related to E-TVET

R2-6-B Suggest priority areas for research and studies related to E-TVET

R2-6-C Network with universities and research bodies to develop research and studies related to E-TVET

R2-7 Increase women's participation in boards, councils and committees related to E-TVET

R2-7-A Assess the extent and nature of women's participation in boards, councils and committees related to E-TVET

R2-7- B Develop necessary measures to increase women's participation

R2-8 Organize awareness raising campaigns to improve the image of E-TVET system

R2-8-A Implement an evaluation study to assess the socio-cultural and economic image of E-TVET

R2-8-B Carry-out media campaigns to improve image of E-TVET

Result 3: Effective and Performance Based Funding of Initial and Continuing Training is Established

R3-1 Set up procedures and criteria for the training and employment fund for allocation of funds to public and non-governmental promoters under the guidance of the E-TVET Council

R3-1-A Assess existing policies, procedures and criteria utilized by the training and employment fund for allocation of funds

R3-1-B Prepare policies, procedures and criteria for funding projects

R3-1-C Implement policies, procedures and criteria that are based on performance for funding projects

R3-1-D Build capacity of TEF staff

R3-2 Design a policy for government subsidy versus contribution of learners to cover training costs

R3-2-A Assess existing legislative tools, policies, procedures and financing criteria that are utilized concerning the contribution of learners to the training cost versus subsidy

R3-2-B Prepare and implement policies, procedures and criteria concerning learners' contribution to the training cost versus subsidies

R3-3 Enhance the self-financing capabilities of E-TVET providers

R3-3-A Assess existing legislative tools, policies, criteria and mechanisms for the self-financing of E-TVET providers

R3-3-B Develop and implement new models, structures, mechanisms for self-financing activities and make necessary amendments to legislation.

Result 4: Quality of TVET Delivery System is Enhanced

R4-1 Establish a Quality Assurance (QA) system including a National Qualification Framework (NQF), occupational classifications, licensing, certification, program development, curriculum and training facility standards, and accreditation with particular regard to labour market relevance, equity and Lifelong learning (LLL)

R4-1-A Assess existing systems, roles and involvement of stakeholders in all components of the QA system

R4-1-B Draft and secure approval of legislative tools (laws and by-laws) to establish an independent agency responsible for QA system

R4-1-C Establish and operationalise a body responsible for the QA system with full involvement of social partners

R4-2 Develop and implement a framework for rationalisation of the TVET public sector (VTC, MoE, and BAU) including programs and facilities

R4-2-A Assess existing systems, roles and involvement of stakeholders in all public training providers

R4-2-B Draft an action plan for rationalization of public TVET providers

R4-2-C Secure approval of the action plan by the E-TVET council

R4-2-D Implement of the action plan by TVET public providers

R4-3 Set up and implement procedures and criteria to improve the quality of training centres managers and training staff

R4-3-A Draft and secure approval for "Training of Trainers" (TOT) Institute regulations

R4-3-B Develop training and instructional material and equip "Training of Trainers" (TOT) Institute

R4-3-C Develop and adopt procedures and criteria to improve the quality of training centres managers and training staff

R4-3-D Develop and implement an action plan to improve the quality of training centres managers and training staff according to the adopted criteria

R4-4 Establish Centres of Excellence (CoE) through Public-Private partnership (PPP) in each of the three TVET sub sectors or collaboratively (VTC, MoE, BAU) in line with QA system, labour market needs and health and safety standards, in line with the rationalization action plan.

R4-4-A Adopt a set of internationally recognized criteria for Centres of Excellence (CoE) for specified needed occupations

R4-4-B Assess scope, quality, capacity and facilities of TVET providers training centres.

R4-4-C Develop and implement an action plan to rehabilitate pilot training centres according to the adopted criteria.

R4-5 Design new programs and delivery models in strategic areas of technology through Private Public Partnership (PPP) to meet labour market requirements

R4-3-A Assess the requirements of the labour market and the status of current programs of TVET providers.

R4-3-B Develop and adopt criteria for new programs and delivery models through PPP in line with QA system

R4-3-C Develop and implement an action plan for the new programs and delivery models through PPP in line with QA system.

R4-6 Update pedagogical material and methods.

R4-6-A Assess existing TVET pedagogical material and methods.

R4-6-B Build expert capacity in developing TVET pedagogical material and methods.

R4-6-C Revise and develop TVET pedagogical material and methods.

R4-7 Adapt TVET training provider's facilities and models of training to serve those with special needs (Handicapped, refugees, illiterate, drop outs, prisoners, street children, etc)

R4-7- A Assess existing facilities of training centers to serve trainees with special needs.

R4-7- B Develop and implement an action plan to adapt training centers facilities for those with special needs.

R4-7- C Build capacity of TOT institute to train trainers for those with special needs...

R4-8 Create the conditions for access of females in TVET R4-8

R4-8- A Assess the status of females in TVET.

R4-8- B Develop and implement action plan to enhance female participation in TVET.

Result 5: Role of the Private Sector in the Planning, Implementation and Other Aspects of E-TVET is Enhanced

R5-1 Enhance the role of social partners (employers and employees) in decision making at all levels

R5-1-A Revise, amend and develop, if needed, relevant legislative tools to secure effective participation of social partners.

R5-1-B Build capacity of social partners in dealing with E-TVET issues

R5-1-C Secure effective participation of social partners in HRD, E-TVET councils and other councils, boards of Directors, Committees, etc.

R5-2 Secure labour market information from private sector associations, labour unions and NGOs, in accordance with the national Human Resources Information (HRI) system

R5-2-A Revise & assess private sector capacity to secure labour market information.

R5-2-B Develop and implement action plans to provide labour market information from private sector associations, labour unions and NGOs

R5-3 Improve capacities of the various economic activity sectors of the private sector (formal and informal) to express their training needs

R5-3-A Assess existing capabilities of the private sector to identify training needs

R5-3-B Develop and implement an action plan to develop the capacity of the private sector to identify training needs

Result 6: Status of Jordan E-TVET is Adapted to Regional and International Challenges

R6-1 Secure adequate data and information related to Arab labour market needs in general and those in Gulf Arab countries in particular.

R6-1-A Assess the status of the availability of data and information system in relevant institutions.

R6-1-B Develop an action plan for a system and mechanism to secure data and information in relevant institutions.

R6-1-C Utilize and sustain information system related to Arab labour market needs.

R6-2 Develop policies, mechanisms and services that contribute towards the role of Jordan as a regional centre for E-TVET.

R6-2-A Evaluate existing policies, mechanisms and services that contribute towards the role of Jordan as a regional centre for E-TVET.

R6-2-B Develop and adopt a marketing strategy and action plan to promote Jordan as a regional centre for E-TVET.

R6-2-C Build the capacity of E-TVET providers to implement the relevant strategy and action plan.

R6-2-D Secure networking and information channels and mechanisms with countries of the region.

R6-3 Utilize and contribute to regional and international trends and developments regarding E-TVET issues

R6-3-A Undertake and host study visits related to E-TVET issues

R6-3-B Participate in and contribute to regional and international conferences, workshops, seminars, etc.

R6-3-C Encourage comparative studies

R6-3-D Enter into agreements with national, regional and international entities

References

1-The National Center for Human Resources Development- **human resource development strategy ,1998**

2-The National Center for Human Resources Development**- handbook of TVET indicators in Jordan**

3-Employment and Technical and Vocational Education and Training Council, **E-TVET Strategy**

4-**Educational law No (3) year 1994**, official gazette No(3958) year 1994.

5-**Higher educational law (4) year 2005**, official gazette No (4702) year 2005

6-**Law of Al-Balqa' Applied University No (13) year 1997,** official gazette No (4191) year 2005

7-Ministry of Education- the **educational statistical report years 2001-2006**

8-Ministry of Higher Education and Scientific Research. **The annual statistical report on higher education in Jordan years 2001-2006**

9-Vocational Training Corporation- **annual report years 2001-2006**

10-www.meda-ete.net